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Indonesia

Poverty Assessment and Strategy Report

May 11, 1990

Country Department V
Asia Regional Office

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CURRENCY EQUIVALENTS

Before November 15, 1978 US\$1.00 = Rp. 415

Annual Average 1979-88

1979	US\$1.00 = Rp. 623
1980	US\$1.00 = Rp. 627
1981	US\$1.00 = Rp. 632
1982	US\$1.00 = Rp. 661
1983	US\$1.00 = Rp. 909 <u>/a</u>
1984	US\$1.00 = Rp. 1,026
1985	US\$1.00 = Rp. 1,111
1986	US\$1.00 = Rp. 1,283 <u>/b</u>
1987	US\$1.00 = Rp. 1,644
1988	US\$1.00 = Rp. 1,681
1989	US\$1.00 = Rp. 1,770

May 1, 1990 US\$1.00 = Rp. 1,830

FISCAL YEAR

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/a On March 30, 1983 the Rupiah was devalued from US\$1.00 = Rp. 703 to US\$1.00 = Rp. 970.

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ABSTRACT : This report reviews trends in the incidence of poverty in Indonesia during the past two decades and outlines a strategy for reducing poverty further during the 1990s. Chapter I reviews trends in poverty with a focus on the recent adjustment period. Chapter II investigates the nature of the poverty problem in Indonesia and outlines a general strategy for achieving further poverty reduction. The remainder of the report discusses poverty issues in agriculture (Chapter III), the social services (Chapter IV), and basic services (Chapter V), as well as institutional issues in designing antipoverty programs (Chapter VI).

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INDONESIA:

POVERTY ASSESSMENT AND STRATEGY REPORT

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This report is based on the findings of two World Bank missions to Indonesia in November 1988 and February/March 1989. It was discussed with the Government during February-May, 1990. The report was prepared by a team led by R. Kyle Peters, Jr. The principal contributors were David Beckmann, John Burrows, Michael Mertaugh, Erdogan Pancaroglu, Nicholas Prescott, Martin Ravallion, Paul Stott, Cyrus Talati and John Wilton. Other contributors were Alain Bertaud, Mark Brooks (consultant), Julie Vilorio and Dennis Whittle. A World Bank Research Project, "Policy Analysis and Poverty: Applicable Methods and Case Studies" (RPO 675-04), based in the Agriculture and Rural Development Department, provided extensive support for the analysis.

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INDONESIA

POVERTY ASSESSMENT AND STRATEGY REPORT

Summary and Conclusions

(i) Only some twenty years ago, Indonesia was one of the poorest countries in the world. In 1967, Indonesia's GNP per capita was only US\$50, roughly half that of India, Bangladesh and Nigeria. Poverty was widespread throughout the country; the earliest estimates of poverty indicated that in 1970, 60% of the population or 70 million Indonesians were living in absolute poverty. Early on, the Government adopted a development strategy, which has been pursued through successive five-year plans, with a commitment to broad-based economic growth, particularly rural development. This was also an appropriate strategy for poverty reduction, as the bulk of Indonesia's population and its poor resided in rural areas.

(ii) The Government's development efforts were focused primarily on agriculture (especially rice), education, and transport infrastructure. The emphasis was on increasing incomes and employment through the productive use of Indonesia's labor and natural resources; there was little reliance on direct transfer programs, consumer subsidies or public employment. Many of these programs and policies established in the early 1970s continued to contribute to the economy's growth and poverty reduction through the late 1980s. As a result of these efforts, dramatic gains in poverty reduction were achieved beginning in 1978, primarily due to the performance of the rice sector. The percentage of the population below the official poverty line declined from 40% in 1976 to 22% in 1984. Although the incidence of poverty was still high in 1984 with about 35 million people in absolute poverty, this was nearly 20 million fewer people in poverty than in 1976. Income inequality also declined moderately during this period. This impressive performance in poverty reduction during the late 1970s and early 1980s provided an important backdrop to trends in poverty during the adjustment period (1983-88).

Trends in the Incidence of Poverty during the Adjustment Period

(iii) Beginning in 1983, sharp drops in the price of oil and associated changes in the international economy drastically altered the economic environment. While Indonesia is generally credited with having implemented a successful macroeconomic adjustment program, there have been concerns about the social costs of the adjustment effort.

(iv) During 1984-87, per capita incomes, as recorded by the National Socioeconomic Survey (SUSENAS) increased by about 16%. Rural areas experienced a faster rate of growth than urban areas, indicating that the benefits of economic growth during this period favored rural areas. However, mean incomes in 1987 in urban areas remained substantially higher than in

rural areas. Income inequality also continued to decline during the adjustment period, with the expenditure shares of the lowest income groups increasing.

(v) Measuring the incidence of poverty and its trend is more difficult, as the choice of a "poverty line" inevitably involves a number of assumptions. According to the Official Poverty line, which is based on 2,100 calories and an allowance for essential nonfood expenditures, there was a decline in the incidence of poverty over these three years, from 22% in 1984 to about 17% in 1987, implying an absolute decline in the number of poor Indonesians from about 35 million in 1984 to about 30 million in 1987. Other estimates of the incidence of poverty, including alternative estimates prepared for this report, also indicate a significant decline over this period. This trend in poverty is also supported by an analysis of caloric intake levels. Mean caloric intake levels increased by about 6% during this period. Moreover, the proportion of Indonesia's population who could be considered malnourished declined.

(vi) As noted above, a significant number of Indonesians have moved out of absolute poverty in the last decade. This is particularly impressive given the difficult economic situation which Indonesia has faced since 1983. However, many Indonesians, the "near poor", have incomes only marginally above the absolute poverty line. These individuals remain extremely vulnerable to changes in their economic circumstances and the Government's strategy for poverty reduction needs to be designed to improve their welfare, as well as those at or below the poverty line.

(vii) The decline in the incidence of poverty observed in aggregate for Indonesia varied across regions and according to the principal source of household income. Dramatic declines in the prevalence of poverty were realized in rural Java. The eastern areas also experienced declines in aggregate, but the incidence of poverty remains high in these areas. Moreover, the incidence of poverty declined across all sectors of the economy, as measured by the principal source of household income. By 1987, two broad conclusions about the distribution of the incidence of poverty were apparent: (i) geographically, poverty has become more concentrated in specific locations in Java, and in the eastern areas of Indonesia; and (ii) sectorally, poverty is concentrated in agriculture, as the majority of all poor households identify agriculture as their principal source of income.

Factors underlying the Reduction in Poverty during the Adjustment Period

(viii) The Government's success in reducing poverty during the adjustment period is attributable to the conditions prevailing prior to the external shocks, and the nature and speed of the Government's policy response to these external shocks. One important precondition was Indonesia's low expenditure inequality, which permitted large reductions in the incidence of poverty to be generated from modest growth in per capita consumption. A second precondition was the Government's past development strategy, which had established a strong rural economy especially on Java, and put into place an extensive network of social and physical infrastructure. The benefits from these programs and policies provided an impetus to income growth and employment during the adjustment period.

(ix) The Government's response to the external shocks was also a key element in the reduction of poverty achieved during this period. By undertaking both prompt macroeconomic adjustment measures and comprehensive structural reforms, the Government was able to achieve significant progress in economic adjustment, while maintaining positive growth rates throughout the period. At the same time, the evidence is that poverty declined. This was possible because the adjustment program contained elements which were geared towards sustaining progress on poverty reduction. Two elements were particularly important. First, the pace and pattern of economic growth was sufficiently robust to allow improvements in real earnings for most workers in lower income groups. In the agricultural sector, the adjustment burden was lessened by the exchange rate depreciations which largely offset lower agricultural export prices, agricultural pricing policies, and some diversification away from rice towards more profitable nonrice crops. In the manufacturing and service sectors, the combination of trade and industrial deregulation and real exchange rate adjustments led to a surge in non-oil exports and a rapid recovery in manufacturing growth and investment, as well as an increase in real wages and employment levels. Second, the Government's management of the public expenditure program ameliorated the effects on the poor of the expenditure reductions. The overall strategy was to cut public investment and preserve public consumption, allowing the productive use of much of the infrastructure created during the 1970s and early 1980s. Furthermore in reducing development expenditures, expenditures in "poverty-related" sectors--agriculture, human resource development and transfers to lower-level governments--were protected relative to public expenditures of less benefit to the poor, notably in industry and mining.

The Nature of the Poverty Problem

(x) Despite the progress made in the past two decades, poverty reduction remains a Government priority for several reasons:

- (a) the number of poor remains high. There are about 30 million Indonesians still living in absolute poverty and a large portion of the population, the "near poor", have incomes only slightly above the poverty line;
- (b) the regional variance in the incidence of poverty is also high. Large proportions of the population are still poor in a number of areas, particularly in the eastern part of Indonesia;
- (c) Indonesia still lags behind other Asian countries in a number of social indicators, such as life expectancy, infant mortality and nutritional status;
- (d) labor force growth will be high during the 1990s, with about 2.4 million people p.a. expected to enter the labor market during the decade.

Designing a program to achieve further poverty reduction and more balanced regional development will be a key challenge to the Government during the 1990s. Moreover, the changed nature of the poverty problem necessitates some

changes in the Government's approach to poverty reduction, as recognized in REPELITA V, in order to reach those groups and areas of the country which have benefitted relatively less in the past.

(xi) One important aspect of the changed nature of the poverty problem is the shift in the spatial incidence of poverty. An analysis of the regional incidence of poverty in Indonesia and its trend indicates two important characteristics. First, income gains during the 1980s in Indonesia have not been evenly distributed across the provinces, with corresponding variations in the reduction of poverty. Moreover, the incidence of poverty remains high in the eastern part of Indonesia. Second, the bulk of the poor, about 66%, still reside on Java. However, unlike the situation in the 1970s where poverty was widespread in Java, it is now concentrated in specific areas that could be more effectively reached by existing Government programs.

A Strategy for Poverty Reduction

(xii) The first thrust of a poverty reduction strategy is sustained economic growth. Economies with sustained economic growth and increased efficiency of resource use have generally experienced significant reductions in poverty. Indonesia's own experience demonstrates that growth and poverty reduction are largely complementary. This implies that further reductions in poverty require a continuation of the Government's macroeconomic policies designed to maintain a high rate of economic growth as well as sectoral policies aimed at improving private sector profitability. This entails implementation of the Government's program of deregulation of trade, industrial and agricultural policies, and efforts to strengthen support services, especially in finance and transport.

(xiii) While these general macro-policies will help sustain the economic growth necessary for poverty reduction, the benefits of economic growth may accrue only slowly to certain groups of the poor or certain disadvantaged areas of the country. This is demonstrated by the regional variations in growth and poverty reduction which have occurred in Indonesia during the 1980s. As the Government recognizes in REPELITA V, macroeconomic policies, therefore, need to be supplemented by additional measures in order to reach disadvantaged groups and areas more effectively.

(xiv) In this regard, several measures could be considered by the Government. First, providing the poor and underemployed with greater access to Indonesia's available land resources and improved agricultural technology can make an important contribution. In the Outer Islands, there is a substantial amount of underutilized and degraded land that could potentially be made available. Much of this land is suitable only for activities such as tree crops, which require a relatively high degree of infrastructure and inputs, including appropriate financing. Second, Central Government transfers to local governments are another vehicle to stimulate income-generating activities and employment particularly in poorer areas. The INPRES program is a potentially important instrument in this regard, and there may be scope for targeting these expenditures more effectively to poorer areas. In the 1990/91 budget, the Government made important steps in this direction through modifications in the allocation criteria for the General INPRES. Third, increasing the effectiveness of small-scale credit schemes to raise incomes

and employment in agriculture, micro-enterprises, and the informal sector can also make a contribution to poverty reduction. The many existing programs need to be rationalized, with an emphasis on improving the access of the poor to these schemes rather than on providing "subsidized" credit. The KUPEDES program administered by Bank Rakyat Indonesia could serve as a model in this regard. Finally, as the Government recognizes in REPELITA V, measures to target human resource development towards the poor are needed. This would have both an investment effect, in the form of augmenting the human capital of the poor leading to increased productivity and incomes, and a consumption effect, by improving present welfare. This is true for the social services--health, education and nutrition--as well as other basic services--water supply, sanitation and related infrastructure--which directly affect living conditions and hence health status.

(xv) In REPELITA V, the Government recognized the magnitude of the poverty problem in Indonesia and the need to mount an intensified effort to reduce poverty. First, the Government reiterated its commitment to a process of growth and structural change with an emphasis on developing an efficient manufacturing sector, supporting the agriculture sector and providing the infrastructure necessary for sustaining a rapid rate of economic growth. Second, in order to address more directly the needs of the poor, the Government is undertaking a number of poverty-related programs during the REPELITA V period, some are new programs being initiated and others are existing programs which are being strengthened. The Government will: (i) promote the even distribution of social and basic services; (ii) provide water to lower-income groups in water-stressed urban slum areas and in rural areas; and (iii) stimulate development in poorer areas through a series of integrated area development projects. These programs constitute an important effort at poverty alleviation for the REPELITA V period. The success of these initiatives will depend upon the Government's ability to identify the needs of the poor, particularly in agriculture and in the social and basic services, and target the programs towards these needs. In addition, the development of an appropriate institutional setting for coordinating and complementing these programs will also assist in achieving the Government's objectives.

Sustaining Agriculture's Role in Poverty Reduction

(xvi) The agriculture sector has made a major contribution to Indonesia's economic development and the reduction in poverty. Agriculture remains central to the Government's growth and poverty reduction strategy. This is because poverty is still heavily concentrated in agriculture, with about three quarters of all poor households in Indonesia deriving their principal source of income from agriculture. Achieving further reductions in the incidence of poverty in rural areas, however, will be more difficult because rice is unlikely to provide the same impetus to economic growth and employment generation as in the past.

(xvii) During REPELITA V, the Government, therefore, is making a concerted effort to foster new sources of growth in nonrice food crops, smallholder tree crops and nonfood farm activities, especially in the Outer Islands and to strengthen the poverty content of existing agricultural

programs. The first thrust of a poverty reduction strategy in agriculture is to maintain a high rate of agriculture growth and thus alleviate poverty directly through raising the productivity and hence, incomes of small farmers, as well as producing affordable food for domestic consumers. Achieving this goal will entail a progressive deregulation of area and production controls to permit farmers greater latitude in choosing their crop patterns in response to market signals; encouraging more private sector participation in agricultural production, processing and marketing; and, improving the economic and financial efficiency of sector operations. This growth strategy will benefit the poor, since the greatest potential for growth is locked up among the least productive and poorest smallholders who cultivate secondary crops and treecrops.

(xviii) The second thrust of a poverty reduction strategy in agriculture is to ensure that mainline agricultural programs reach the poor more effectively. Currently, many agricultural programs are still primarily focussed on irrigated rice farmers and treecrop farmers in Government-sponsored schemes. Building a more deliberate focus on other crops and poor farmers in agricultural support services and commodity development programs will make an important contribution to further reductions in poverty. As demonstrated in Indonesia during the 1970s and 1980s, the most important contribution that the Government can make is to offer small farmers a mix of technology through research and extension, financing through rural credit, and infrastructure particularly irrigation, to expand their productivity and incomes. Broadening these Government programs into nonrice food crops and nonfood farm activities is, therefore, a key challenge for the Government during REPELITA V. Similarly in treecrop development, past programs have benefitted only a small proportion of existing estate crop producers. To unlock the potential of the mass of unassisted smallholders, there is a need to develop, test and disseminate technical packages that can be applied on a larger scale. Another important priority of the Government is fishing families, as they probably constitute the poorest segment of Indonesian society. A strategy to reach these fishermen would increase their efficiency through better boats, fishing gear and supporting services in areas where fish are plentiful, but in other areas aquaculture and other area development initiatives would be a more appropriate strategy.

(xix) Despite the scope for improving agricultural growth and the poverty focus of existing agricultural programs, some of the poorest households will still not be reached, due to their lack of capital (particularly land), illiteracy, or geographical isolation. The Government has therefore recognized the need to supplement ongoing subsectoral programs with special programs specifically targeted at the poor. There are two basic approaches. The Government is targeting areas through an area development approach. In this regard, Government efforts to ensure the sustainability of these programs through strengthening the implementation capacity of local governments and developing techniques that can be replicated through regular sectoral programs will be important. The Government is also targeting poverty groups through an ongoing pilot project supported by FAO/UNDP, Income Generating Project for Small Farmers (P4K). The P4K has much to offer as an instrument for reaching the poor, and therefore, merits support.

Improving Social and Basic Services for the Poor

(xx) Improving access to and the consumption of basic services (education, health, family planning and water supply and sanitation) is a necessary condition for the Government's poverty reduction programs to be successful in the long run. These interventions address the most severe consequences of being poor. But they also constitute investments in human capital which provide the basis for long-term poverty reduction.

(xxi) Education plays an important role in reducing poverty over the long term, by providing the poor with the skills necessary to raise their productivity and incomes. Primary education or its equivalent are critical for this, as shown by the high social rates of return to primary school education in Indonesia. In the past decade, the Government has made a concerted effort to improve the availability of education. This program has succeeded in providing access to primary schooling to virtually all Indonesian children of primary school age. This expansion of primary schooling is one of the most successful cases of large-scale school system expansion on record.

(xxii) The nearly complete coverage of primary schooling leaves little room for differentials in enrollment by income class. Equalizing educational opportunities at primary level is, therefore, principally an issue of equalizing the quality of education. Income-related quality differentials still remain in both primary and secondary education. One indicator is primary school repetition rates, which vary across provinces. The differences in quality arise from differences in the capacity of individual communities to supplement limited budgetary resources. Thus, those communities or individuals that cannot afford to pay higher fees face a lower quality of education because their schools do not have the complementary inputs necessary to improve education quality. The problem is that the allocation of Central Government funds for primary education does not currently compensate for the inability of poor areas to mobilize local resources.

(xxiii) The Government has stated its commitment to raising the quality of basic education under REPELITA V. Two policy measures would help improve the access of the poor to the full benefits of education. First, while primary school enrollment is virtually complete, there is evidence that inability to pay the costs of schooling increases primary school drop-out rates among the poor and is a deterrent to school attendance among the poor at higher levels of schooling. The Government might consider providing financial support to the poor for this purpose. Second, there is scope to improve the quality of primary and secondary education provided to poor children and in poor areas. The most important needs are for adequate financing of essential supplies such as textbooks, teacher's manuals and chalk together with improving teacher quality through in-service training. Some reorientation of budgetary priorities within the education sector would therefore be appropriate. In particular, increasing budgetary outlays for improving the quality of primary education, while restraining the growth of public expenditures and increasing cost recovery for higher education, would improve the efficiency and equity of the system. In addition, it will be essential to develop a proper mechanism for directing larger subsidies to primary schools in poor communities.

(xxiv) Non-formal education (NFE) also has a role to play in poverty reduction. First, there is a close association between illiteracy and poverty. About one third of the poor are illiterate and almost 50% of the poor above the age of 29 are illiterate. Second, since the rapid expansion in primary school enrollments occurred only in the early 1980s, many older Indonesians have not had the opportunity to acquire the basic education skills needed to participate actively in the labor market. The Government has a number of programs designed to teach basic literacy and numeracy, raise community awareness, and support local income generating activities. The options to improve NFE during the REPELITA V period include: (a) expanding the resources available to these NFE programs; (b) increasing the number of extension workers, as well as improve their training in the income generating aspects of NFE programs; and (c) targeting NFE activities to those areas where poverty is the highest.

(xxv) Indonesia's record of mortality reduction has been solid and impressive. A key indicator is infant mortality, which has been roughly halved in the past two decades. However, the poor have benefited less from the progress in mortality reduction than the nonpoor. In addition, the sick poor use fewer modern curative health services than the nonpoor. Most of this difference in outpatient visits is due to the higher use of high-quality providers (doctors and hospitals) among the nonpoor. Hospital admission rates for the nonpoor average three times those of the poor. Moreover, overall these rates are extremely low in Indonesia, even for the nonpoor, compared to levels prevailing in other countries.

(xxvi) The low level of utilization of health services by the poor in Indonesia indicates a need to improve access by enhancing both the quality and quantity of available services. High priority needs to be given to raising recurrent expenditure on operations and maintenance inputs necessary to provide adequate service through fixed facilities and to improve the logistical support to preventive health facilities in the villages (POSYANDU). Key components of the effort to raise quality include: redistribution of specialist doctors from tertiary to lower level hospitals; increasing the supply of medical and paramedical staff to understaffed health centers; increasing the supply of health center drugs, which presently cover about three-quarters of annual requirements; and increasing the operational budget of health centers to ensure sufficient funds for travel in support of POSYANDU activities. On the investment side, priority could be given to increasing the supply of community health centers and subcenters in order to reduce travel time in poorer areas with more dispersed populations. Important steps were taken in this direction in the 1990/91 Budget; ensuring the implementation of these plans and adequate funding for operations and maintenance to new facilities will be important to the success of the effort.

(xxvii) Malnutrition increases the susceptibility to disease; it also affects school attendance and performance among children and labor productivity among adults. During the last decade, the incidence of malnutrition has declined throughout Indonesia, although it still remains high in some areas. The Government's nutrition program, which is now administered primarily through the POSYANDU, has two basic components: (i) a monthly weighing program; and (ii) IEC (information, education, and communication)

activities. During REPELITA V, the Government is committed to enhancing the effectiveness of its nutrition program. The most important improvement in the nutrition program would be the introduction of more effective supplemental feeding for children who suffer from severe malnutrition. Also, the Government's program could be better targeted by concentrating available resources and staff support on those areas where the incidence of malnutrition is high. Ensuring adequate logistical support from the health center network in these areas would make an important contribution to strengthening the program.

(xxviii) Improved water supply and sanitation in rural areas can have wide-ranging health, economic, social and environmental benefits. The greatest effect on health from the provision of rural water supply and sanitation (RWSS) is likely to come from improved sanitation facilities and an increase in water quantity. Furthermore, the benefits of RWSS can be especially important for women and children, as they play a major role in carrying water. RWSS service levels are low in Indonesia, with available coverage favoring water supply over sanitation and the nonpoor over the poor. The Government has committed itself to making an intensified effort in REPELITA V to increase substantially the coverage of RWSS. Options to increase coverage include: (a) a clear definition of institutional responsibilities and an effective coordinating mechanism; (b) the use of low-cost appropriate technology; (c) the use of a cost recovery mechanism to provide funds for the operations and maintenance of these systems with the capital cost provided through the INPRES program; and (d) the use of community-based groups in implementation to encourage local acceptance, provide education about health benefits, and help overcome the financial and staffing constraints of the Government.

(xxix) Progress has been made in improving access to safe drinking water in urban areas but disparities remain in the access between poor and nonpoor households. The situation for the poor is becoming critical, especially in the larger cities and the role of standpipes or a viable alternative has become increasingly important. Recognizing this, the Government has recently embarked on a major initiative to improve the access of the urban poor to water at affordable prices, involving a dramatic increase in the number of standpipes and deregulating the sale of water in Jakarta. Consolidating these initiatives into a long term solution to the water needs of the poor requires a further increase in the number of public standpipes, a strengthening of procedures for their operations and maintenance, and changes in the financing mechanism for the public standpipes program.

(xxx) Human waste disposal is generally unsanitary in Indonesian cities. This can have adverse effects upon human health, especially in crowded and congested urban areas. As with water, there is a disparity between the poor and the nonpoor, with almost one third of poor households indicating that they do not use formal sanitation facilities. Despite the need for and availability of appropriate technology, public expenditures on sanitation have lagged. The Government plans to give greater priority to the improvement of urban sanitation during REPELITA V. The focus will need to be on providing more and better toilets for poor households with on-site disposal. This could include the adoption of appropriate technologies on a larger scale, clarification of institutional roles, formulation of a list of

priority areas within cities, and greater involvement of the community. It is also important to improve the knowledge of poor urban residents about the benefits of sanitary disposal of human waste.

(xxxii) The Kampung Improvement Program (KIP) is a nationwide program for upgrading urban villages, particularly in lower-income communities and is, therefore an important mechanism for improving basic services for the urban poor. It provides a range of infrastructure at minimal standards including local roads, footpaths, drainage, water supply, public sanitation facilities and solid waste collection. In the past, this program has successfully focused on badly serviced areas in a number of cities. Recognizing its potential to address the needs of lower income groups, the Government is increasing its expenditures on the KIP program during REPELITA V. The effectiveness of expenditures in this area could be raised by more fully addressing community priorities, which is likely to result in more funding being allocated to sanitation, solid waste or water supply where the needs of the poor are the greatest. In order to improve the performance of these components, it will also be important to make complementary improvements to primary systems outside the kampung and to provide adequate funding for operations and maintenance.

(xxxiii) Since the formation of the National Urban Development Corporation (PERUMNAS) to produce low cost housing and a home ownership financing program through the State Savings and Housing Bank (BTN) in 1974, Government housing programs have evolved from a relatively marginal activity to an important part of the housing market. During the REPELITA V period, the Government is undertaking efforts to target Government housing expenditures and in particular, subsidies more effectively to the poor. Several factors will be important to this effort. First, consideration could be given to expanding the range of housing products to make them more affordable and accessible to lower-income groups. Second, Government financing of low-cost/low-income rental housing also would assist the poor. Third, while significant steps have been taken to lower interest rate subsidies, the subsidies are not well targeted to the poor and need to be eliminated. To reach the poor, Government efforts could be directed towards the KIP program, which could be better targeted on low-income households. Finally, changes in the regulatory environment affecting the housing sector, such as improving land administration and adopting appropriate design and construction standards, would also serve to help the poor.

Developing an Institutional Framework for Poverty Reduction

(xxxiiii) Given that the causes and consequences of poverty are multi-dimensional, antipoverty programs are by nature intersectoral. Formulating and implementing these programs necessarily entails the active involvement of many individual ministries, Government agencies, local-level governments, and community groups. International experience indicates that coordination is among the most difficult of government functions. Therefore, minimizing the need for intersectoral coordination during implementation will be an important factor in the success of antipoverty programs. Ex-ante planning for this should be an explicit objective of the Government in order to minimize difficulties in the execution of its poverty programs. In this regard, the

Government could establish a focal point in BAPPENAS to undertake these functions. Also in the line agencies, incorporating poverty reduction explicitly into a number of sectoral programs would help to ensure that mainline programs reach the poor more effectively. Finally in lower-level governments, there is a need to raise awareness of the Government's overall poverty-reduction strategy and in many cases strengthen planning and implementation capacity.

(xxxiv) This report has also identified a number of areas where community group could play a larger role in the design and implementation of poverty programs. Currently, there are a wide variety of community organizations in Indonesia: community self-help organizations; agencies that promote community self-help groups; religious, university, service and professional associations; and semigovernmental organizations. These organizations have already made important contributions to national development, which could serve as models for future collaboration with the Government in antipoverty programs. In family planning, private agencies have played a significant innovative role. Semigovernmental and social organizations have also made important contributions in improving health; most notably, the POSYANDU network relies almost exclusively on the Family Welfare Movement (PKK) at the village level. In irrigation, water users' associations, supported by the Ministry of Public Works, are beginning to play a larger role in maintaining and improving small-scale irrigatic systems.

(xxxv) The Government has begun to recognize the importance of involving community groups more actively in its development programs. Both the Guidelines for State Policy (GBHN) and REPELITA V stress the need for more community participation. The Government could consider several initiatives during the REPELITA V period to foster community participation in the design and delivery of its poverty reduction programs: (i) allowing these organizations more scope for initiative is an important first step; (ii) continuing Government efforts to strengthen the Village Community Resilience Committee (LKMD) and PKK and make them more participatory; and (iii) expanding the use of community groups as consultants for training and assistance in community development, which will also help to educate Government officials about these groups and their potential usefulness. In the 1990/91 Budget, the Government took steps to strengthen village-level groups and foster more community participation.

INDONESIA

POVERTY ASSESSMENT AND STRATEGY REPORT

I. ASSESSMENT OF POVERTY IN INDONESIA

A. Overview

1.1 Only some twenty years ago, Indonesia was one of the poorest countries in the world. In 1967, Indonesia's GNP per capita was only US\$50, roughly half that of India, Bangladesh and Nigeria. Poverty was widespread throughout the country. The earliest estimates of poverty, in 1970, indicated that 60% of the population or about 70 million Indonesians were living in absolute poverty. Initially, the Government's approach was based on a strong commitment to broad-based economic growth, particularly rural development. In the first phase of development, which corresponded roughly with the First Five-Year Plan Period (1969/70-1973/74), the Government concentrated on establishing the basic institutions for rural development and the design of a replicable rural development strategy. This was appropriate as the vast majority of Indonesia's population was in rural areas and the bulk of the poor were concentrated in rural Java.

1.2 Beginning in 1974, when public resources increased substantially due to the first increase in the international price of oil, the Government undertook substantial investments in physical and social infrastructure. By the late 1970s, these investments began to pay off both in terms of a rapid rate of economic growth and more slowly, declines in the incidence of poverty. By the early 1980s, poverty had begun to decline dramatically and income inequality was also on a downward trend. However, commencing in 1983, sharp drops in the price of oil and associated changes in the international economy drastically altered the economic environment. While Indonesia is generally credited with having implemented a very successful macroeconomic adjustment program in response to this external challenge, so far little systematic evidence has been presented on the effect of this adjustment program on the poor. This report reviews the evidence regarding how the poor have fared during this adjustment period, and then draws on the characteristics of the poor to outline a strategy for further reducing poverty through the 1990s.

1.3 An assessment of recent poverty trends during the adjustment period demonstrates that in aggregate both the percentage of the population in poverty and the absolute number of the poor declined during the 1980s. Income inequality has also declined during the 1980s, indicating that the poor did not bear a disproportionate share of the adjustment burden. The Government's success in reducing poverty and inequality during the adjustment period is attributable to the development strategy adopted in the 1970s, and the nature and speed of the Government's policy response to the external shocks of the 1980s.

1.4 Throughout the adjustment period, the Government by undertaking both prompt macroeconomic adjustment measures and comprehensive structural reforms maintained a positive rate of economic growth. Three aspects of the Government's adjustment program were important in sustaining the momentum of

poverty reduction. First, despite a deceleration in agricultural growth due to a slowdown in rice production, farm incomes, upon which the bulk of the poor depend, were protected by the exchange rate adjustments and pricing policies. There was also some diversification towards more profitable nonrice crops. Second, the combination of exchange rate adjustments and trade and industrial deregulation succeeded in not only containing the adverse effects of the slowdown, but also helped achieve a rapid recovery in manufacturing growth. Due to this and the absorption of workers into the agricultural sector, employment per unit of output grew faster during the 1980s than the 1970s, offsetting to some extent the slower rate of economic growth. And finally, while public expenditures were reduced substantially, public consumption was protected relative to investment; and public spending in "poverty-related" sectors--agriculture, human resource development, and regional transfers--was protected relative to other sectors.

1.5 Despite the progress made in the past two decades, poverty reduction remains a key priority of the Government for several reasons. First, while all Indonesians have experienced income gains, at least 30 million Indonesians, or about 17% of the population remain in absolute poverty. Moreover, many Indonesians have incomes only slightly above the estimated "poverty line" and thus, remain vulnerable to changes in their economic circumstances. Second, the variance in the regional incidence of poverty is quite high. During the 1980s, substantial reductions in the incidence of poverty in some areas, particularly Java, have occurred alongside less progress in other areas of the country, particularly the eastern areas. This is primarily the result of differential rates of growth among the provinces. And finally, Indonesia's labor force is expected to grow by about 2.4 million persons p.a. during the 1990s, suggesting that in the absence of a concerted effort to raise economic growth and the incomes of the poor, the progress made in reducing poverty could reverse itself.

1.6 Continuing the Government's present policy course of sustaining a higher level of economic growth through a program of structural reform is the first component of a poverty reduction strategy. Without economic growth, it is not possible to achieve a reduction in poverty over the long term. While this approach is likely to ultimately benefit all groups within the country, the effects of these policies may be slow in reaching certain disadvantaged groups and certain areas of the country. Reaching these groups more effectively in order to speed up the pace of poverty reduction will require improved targeting of poverty programs. This can be achieved primarily through three avenues: utilizing, to a greater extent, the INPRES program and other Government small-scale development projects to stimulate employment and create infrastructure in disadvantaged areas or sectors;^{1/} raising the poverty content of agriculture programs, as the bulk of the poor are in rural areas and depend upon agriculture to a large extent for their incomes; and, orienting social and other basic services--water supply, sanitation, and

^{1/} The INPRES program is a series of Central Government transfers to lower-level governments, which normally fund small-scale investments in physical and social infrastructure; see footnote 28.

other basic infrastructure--towards the poor. The combination of these programs with policies aimed at sustaining a higher rate of growth will lead to a further reduction in poverty during the 1990s.

1.7 The report is organized as follows. This chapter assesses trends in the incidence of poverty. First, trends prior to the adjustment period are briefly discussed to highlight aspects of particular relevance to the events during the adjustment period (Section B). This is followed by a detailed analysis of poverty during the adjustment period. Trends in the level and the regional incidence of poverty are examined, and changes in income inequality are also highlighted (Section C). The last section describes the factors underlying the reduction in poverty achieved during the adjustment period (Section D).

1.8 Chapter II examines the characteristics of the poor and outlines a general strategy for continuing poverty reduction in the 1990s. In addition, recent Government initiatives to reduce poverty are analyzed in the context of the proposed general strategic approach. Then, the report discusses in detail sectoral issues in designing and implementing antipoverty programs in three areas that are critical to the needs of the poor--agricultural programs (Chapter III), and human resource development in the social services (Chapter IV) and other basic services, such as water supply, sanitation and other basic infrastructure (Chapter V). Within these sectors, the report identifies those areas of most benefit to the poor and outlines appropriate policies and programs to shift a larger portion of resources to these areas. Finally, implementing the strategy outlined in this report will require changes in the Government's current institutional arrangements for identifying and implementing poverty programs. The report concludes with a discussion of institutional arrangements and responsibilities that could increase the efficiency of the Government's efforts (Chapter VI). There is also a discussion of the role that community groups could play, in addition to Government institutions, in reaching and delivering services more effectively to the poor.

B. Poverty Reduction Prior to the Adjustment Period

1.9 When the New Order Government came to power about twenty years ago, the economy was in considerable disrepair. Indonesia was one of the poorest countries in the world with per capita GNP at only US\$50 in 1967, roughly one half the level of India, Bangladesh and Nigeria. Poverty was ubiquitous throughout the archipelago; it is estimated that almost 60% of the population, or nearly 70 million people, were living in absolute poverty in 1970.^{2/} Once economic stability was achieved, the first of several Five-Year Plans was formulated. Since development started from a very low level, these plans gave little explicit attention to poverty alleviation. Instead, the Government's

^{2/} See, Indonesia: Policies and Prospects for Economic Growth and Transformation, The World Bank, Report No. 5066-IND, April 26, 1984, pp. 130-131.

approach--which continued through succeeding Five Year Plans--involved a very strong commitment to broad-based economic growth, particularly rural development, with concern for the equitable distribution of the benefits of that growth.

1.10 During the first five-year development plan (REPELITA I), 1969/70-1973/74, the Government concentrated on establishing the basic institutions necessary for economic development. As Indonesia was predominantly a rural society, the primary focus of its strategy was improving the productivity of the rural economy and in particular, the attainment of rice self-sufficiency. Agriculture, including irrigation, constituted over one-third of the development budget during the REPELITA I period. Most of this effort was directed towards Java and Bali, where the largest number of Indonesia's poor were located. This period was basically a learning phase in the design and replication of many rural development programs.

1.11 Starting about 1974, when public resources increased substantially, the Government intensified and expanded this development program. From 1973/74 to 1977/78, the Government allocated 49% of the windfall in mining value added to development outlays, as measured by the rise in development expenditures over the level of the early 1970s.^{3/} The Government's development efforts were focused primarily on agriculture, particularly rice, education, and transport infrastructure. The emphasis of the development programs and policies during this period was on increasing incomes and employment through the productive use of Indonesia's labor and substantial natural resources. There was relatively little reliance on income transfers, consumer subsidies, or public employment.

1.12 One important component of the Government's development program for creating social and physical infrastructure and the reduction of poverty was the establishment of the INPRES expenditure program. INPRES established a means of sharing Central Government revenues with lower level governments through a system of flexible direct subsidies with the aim of reducing interregional disparity and building and supporting infrastructure in the provinces. There are both general INPRES grants to the provincial, district and village-level governments, and sectoral INPRES grants for the construction of roads, elementary schools, health facilities and reforestation, as well as their operations and maintenance. The infrastructure created by these projects-- primary schools, health facilities, roads--provided important benefits to Indonesia's rural population. Moreover, the small-scale infrastructure projects funded under the INPRES program provided substantial employment for unskilled labor in rural areas, growing from an estimated quarter of a million man-years of work in 1970 to about 1.5 million by 1982 (about 2.7% of the labor force).^{4/}

^{3/} See, Alan Gelb and Associates, Oil Windfalls: Blessing or Curse?, A World Bank Research Publication, Oxford University Press, October 1988, Chapter 12.

^{4/} See, Gelb, 1988, ibid, p. 220.

1.13 The Government was relatively successful in attaining its twin objectives of achieving a rapid rate of economic growth and ensuring a more equitable distribution of income. Real GDP grew by about 6.5% p.a. during 1974-78, with agriculture growing by about 4% p.a. Per capita private consumption also increased. While the momentum for this growth was clearly provided by the oil boom of the mid-1970s, much credit must also be given to Indonesia's economic policymakers for channeling these windfall gains into productive uses in critical sectors, and for efforts to achieve equity in the distribution of those gains.

1.14 The reduction in the rate of poverty in rural areas was, however, modest during 1970-76, especially compared to the level of economic growth attained over this period. Although official estimates of poverty are not available prior to 1976, earlier estimates by the World Bank indicate that during 1970-76, the incidence of poverty in rural areas declined by only 4%.^{5/} Due to the rapid rate of population growth during this period, the number of rural poor actually increased. The primary reason was the sluggish performance of the rice economy, the main source of income of the bulk of the rural poor; rice production rose slowly in the early 1970s and was basically flat from 1973-78.^{6/} A second reason was that, in rural areas, much of the physical and social infrastructure was just beginning to be put into place and the benefits from these investments were not realized until later. As a result of these factors, the absolute number of the rural poor did not change significantly during 1970-76.

1.15 Urban areas benefitted relatively more from the economic growth of the 1970-76 period, as indicated by a sharper decline in urban poverty.^{7/} This was largely the result of substantial growth in public sector employment in the 1970s, with related positive benefits throughout the urban areas. Moreover, infrastructure, both physical and social, was more developed in urban areas, which allowed urban income earners to take greater advantage of the expanding economic opportunities. Inequality also worsened between 1976 and 1978, as indicated by the rise in the Gini coefficient from 0.34 in 1976 to 0.38 in 1978 and a 9% decline in the consumption share of the lowest decile of the population. This deterioration was largely due to the performance of the rice sector and the faster growth of incomes in the relatively better-off urban areas.

1.16 Significant reductions in the incidence of rural poverty were achieved beginning in 1978 (see Table 1.1). The most important contribution to poverty reduction came from the rice sector, which started to grow rapidly in 1978 due to a variety of factors including the introduction of rice varieties resistant to the brown plant-hopper. Furthermore, the substantial public infrastructure constructed throughout the 1970s began to yield benefits to rural Java. The percentage of the population in poverty in rural areas

^{5/} See, World Bank, 1984, op.cit., and Annex III.

^{6/} See, Chris Manning, "Public Policy, Rice Production and Income Distribution: A review of Indonesia's Rice Self-Sufficiency Program," Southeast Asian Journal of Social Science, Vol. 15, No. 1, 1987, p. 69.

^{7/} See, World Bank, 1984, op.cit.

declined from 40.4% in 1976 to 28.4% in 1980, almost a 20% decline in four years. However by 1980, a high level of poverty still persisted. It was also widespread throughout the country, except on Sumatra and Kalimantan, which were well endowed with natural resources and relatively sparsely populated.^{8/} Absolute poverty affected a large proportion of the population of rural Java. High incidences also prevailed in Sulawesi, Lampung, Bali and Nusa Tenggara. By and large, the same regions (Java excluding Jakarta, South Sulawesi, Lampung, Bali, and Nusa Tenggara) had high incidences of urban poverty. Concentrations of poverty were found in Central Java, East Java, and Nusa Tenggara. In 1980, about three-quarters of all the poor in Indonesia resided in Java, mostly concentrated in the rural areas of Central and East Java.

Table 1.1: THE INCIDENCE OF POVERTY: 1970-80 /a

	1976	1978	1980
	<u>Poor in Total Population (%)</u>		
Urban	38.8	30.8	29.0
Rural	40.4	33.4	28.4
Total	<u>40.1</u>	<u>33.3</u>	<u>28.6</u>
	<u>Number of Poor (millions)</u>		
Urban	10.0	8.3	9.5
Rural	44.2	38.9	32.8
Total	<u>54.2</u>	<u>47.2</u>	<u>42.3</u>
<u>Memo item:</u>			
Gini coefficient	0.34	0.38	0.34
Consumption share of the bottom 20% of the population (%)	8.0	7.3	7.7

/a These estimates are obtained using the Government's official poverty line. The methodology used by the Central Bureau of Statistics (CBS) is discussed in Annex III.

Source: Kemiskinan Distribusi Pendapatan dan Kebutuhan Pokok, Central Bureau of Statistics (CBS), August 1989; Statistik Indonesia 1988, CBS.

1.17 Rapid economic growth continued through 1983. Moreover, the agriculture sector also grew rapidly, as farm food crops increased by 5.6% p.a. during 1978-83 with rice growing by about 6.5% p.a.

8/ Estimates of the regional incidence of poverty are available in World Bank, 1984, p. 177. See Annex III.

The incidence of poverty also continued to decline. In aggregate during the 1976-84 period, the percentage of the population in poverty declined by nearly 50%, and the absolute number of poor in Indonesia fell by almost 20 million people (see Tables 1.1 and 1.4). Income inequality was also on a slight downward trend after rising in 1978; the Gini coefficient declined from 0.34 in 1976 to 0.33 in 1984. This impressive performance provided an important backdrop to trends in poverty reduction during the adjustment period.

C. Trends in the Incidence of Poverty during the Adjustment Period ^{9/}

1.18 As discussed in the preceding section, Indonesia experienced a rapid rate of economic growth and achieved a sustained reduction in the incidence of poverty through the early 1980s. This section discusses how the poor have fared and whether their numbers have increased during the period since 1983, when Indonesia suffered a severe deterioration in its external terms of trade and as a consequence, experienced a slower rate of economic growth. This analysis uses household consumption expenditures per capita from the latest two rounds (1984 and 1987) of the National Socioeconomic Survey (SUSENAS: see annex I).

1.19 Trends in income and consumption.^{10/} Real per capita consumer expenditures, as measured by the SUSENAS surveys, increased by 15.7% over the three year period, 1984-87 (see Table 1.2).^{11/} The benefits of economic growth favored rural areas, as per capita expenditures in rural areas increased at a faster

^{9/} This section is drawn from, "Poverty and Undernutrition In Indonesia During the 1980s", Martin Ravallion and Monika Huppi, The World Bank, Policy, Planning, and Research Working Papers, No. 286, September 1989. This paper was prepared under a World Bank research project entitled, "Policy Analysis In Poverty: Applicable Methods and Case Studies" (RPO 675-04) and in conjunction with this report.

^{10/} In deflating SUSENAS incomes and expenditures, the CPI has been reweighted to reflect more accurately the consumption pattern of the poor (see Annex II); See Annex Table 1 for the provincial rates of inflation, over the period February 1984-January 1987. An allowance for urban-rural price differentials has been incorporated into this index, using previously estimated cost of living differentials in Indonesia; the assumed differential is 10%. See, Martin Ravallion and Dominique van de Walle, "Cost-of-Living Differences between Urban and Rural Areas in Indonesia", The World Bank, Policy, Planning and Research Working Papers, No. 341, December 1989.

^{11/} This is qualitatively consistent with the national accounts, but the magnitude of the increase in the SUSENAS data is larger.

rate (14.6%) than in urban areas (12.1%). However, expenditures and incomes remained on aggregate significantly higher in urban areas than rural areas; average per capita expenditures in urban areas were 68% higher than in rural areas.

Table 1.2: SUMMARY DATA ON MONTHLY EXPENDITURES AND INCOMES
(February 1984 prices; CPI Adjusted)

Sector	Mean		t-statistic <u>/a</u>	3 yr. Growth Rate (%)	
	1984	1987			
Expenditure per capita	Urban	25,196	28,239	13.12	12.1
	Rural	14,678	16,820	26.42	14.6
	Total	17,149	19,837	29.43	15.7 <u>/b</u>
Income per capita	Urban	29,949	33,248	8.03	11.0
	Rural	17,962	20,083	12.29	11.8
	Total	20,778	23,561	16.17	13.4 <u>/c</u>

/a The t-statistic measures whether there was a significant difference in mean expenditure/income between 1984 and 1987. All differences are significant at the 99% level.

/b The population weighted means of urban and rural growth rates is 14.0%.

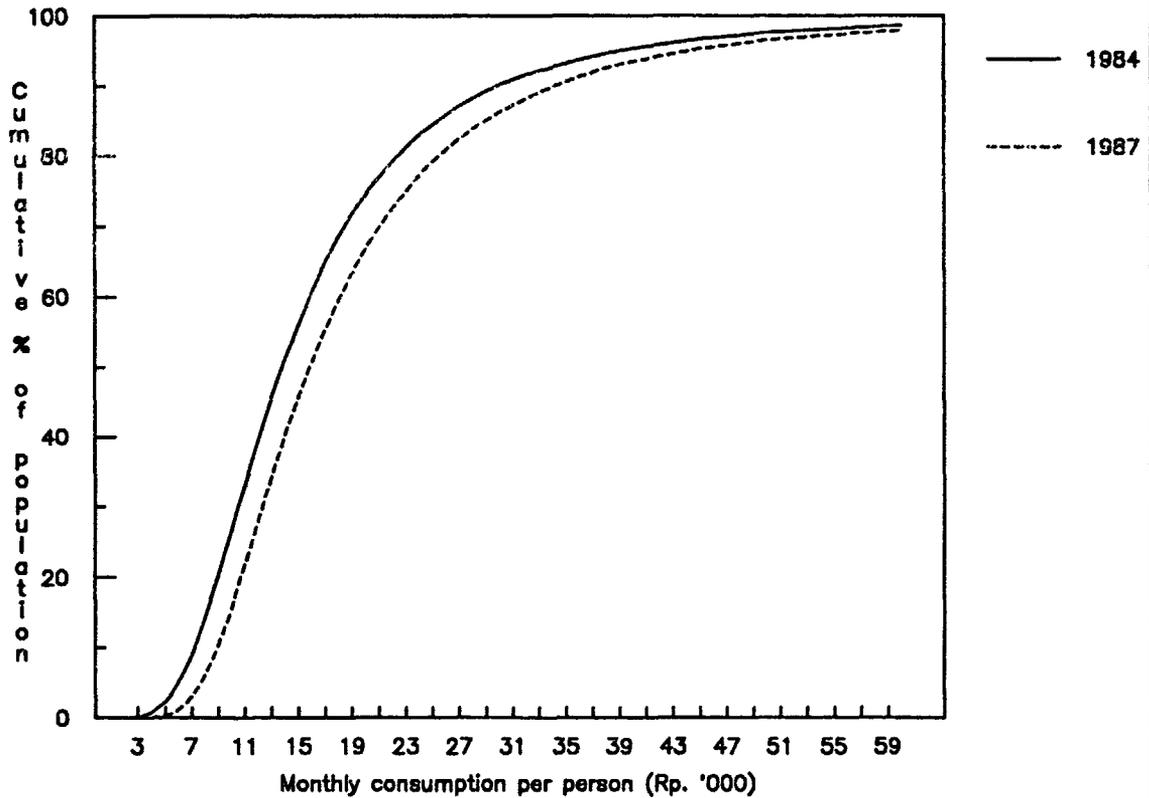
/c The population weighted mean of urban and rural growth rates is 11.6%.

Source: World Bank staff estimates from 1984 and 1987 SUSENAS surveys; see Ravallion and Huppi, 1989.

1.20 A comparison of the cumulative distribution of real expenditures per capita (in 1984 prices) between the two periods indicates that the 1984 distribution lies entirely above the 1987 distribution (see Figure 1.1). This implies that, at any particular level of real expenditures per capita (or any "designated" poverty line), there was a lower percentage of the population at or below that level in 1987 than in 1984. Thus, it can be concluded that all possible poverty lines will show an unambiguous decrease in aggregate poverty between 1984 and 1987.12/

12/ See, A.B. Atkinson, "On the Measurement of Poverty," *Econometrica*, Vol. 55, No. 4 (July 1987), pp. 749-764. Atkinson shows that, as long as the class of poverty measures satisfies certain rather mild conditions, poverty will have unambiguously fallen between two dates if the cumulative distribution of income for the latter date lies nowhere above that for the former date, over the entire interval up to the maximum allowable poverty lines.

Figure 1.1: CONSUMPTION DISTRIBUTIONS



Source: 1984 & 1987 SUSENAS surveys.

1.21 Income inequality, as measured by SUSENAS expenditures, also declined during 1984-87 (see Table 1.3).^{13/} The 1987 Lorenz curve unambiguously dominates the 1984 curve for both urban and rural areas, and of course nationally. There were also proportionately larger increases in the consumption shares in the poorer deciles. Moreover, the Gini coefficient, which has been traditionally low in Indonesia, declined slightly between 1984 and 1987. This also confirms our qualitative conclusion that poverty declined in the most recent period, since a reduction in overall inequality will reduce poverty when (as is the case in Indonesia) the poverty line lies below mean expenditure.

^{13/} Similar results were obtained from the SUSENAS using income data rather than expenditures.

Table 1.3: LORENZ CURVES AND GINI COEFFICIENTS /a
1984 and 1987

Poorest Percent of Population	Cumulative Percentage of Total Expenditures					
	Urban		Rural		Total	
	1984	1987	1984	1987	1984	1987
10	3.23	3.46	3.77	4.26	3.40	3.78
20	7.88	8.15	8.99	9.81	8.14	8.77
30	13.54	13.84	15.18	16.21	13.82	14.59
40	20.15	20.54	22.25	23.42	20.42	21.20
50	27.76	28.05	30.28	31.46	27.97	28.73
60	36.46	36.74	39.35	40.44	36.62	37.27
70	46.51	46.81	49.65	50.59	46.57	47.10
80	58.38	58.69	61.50	62.25	58.40	58.76
90	73.47	73.58	76.06	76.42	73.31	73.48
100	100.00	100.00	100.00	100.00	100.00	100.00
Gini /b	0.333	0.329	0.293	0.277	0.331	0.321
Gini /c					0.330	0.322

/a The Lorenz Curve is based on the deflated SUSENAS expenditure data and differs slightly from that obtained at nominal prices.

/b Based on real expenditures.

/c Based on nominal expenditures.

Source: World Bank staff calculations from 1984 and 1987 SUSENAS surveys; see Ravallion and Huppi, 1989. Pengeluaran Untuk Konsumsi Penduduk Indonesia 1987, Book 1, (Expenditure for Consumption of Indonesia 1987), CBS, January 1989.

1.22 Trends in the incidence of poverty. Measuring the incidence of absolute poverty and its trend is more difficult, as the choice of a "poverty line" inevitably involves a number of assumptions. Official estimates of poverty for the 1984-87 period are available from the Central Bureau of Statistics.^{14/} Using this poverty line, there was a decline in the percentage of the population considered poor in both urban and rural areas over these three years (see Table 1.4). The incidence of poverty was 21.6% in Indonesia in 1984. By 1987, this percentage had declined to 17.4%. There was also an absolute decline in the number of Indonesians in poverty, from 35 million in 1984 to 30 million in 1987. There was a significant reduction in the incidence of rural poverty and a smaller reduction in urban areas. In rural areas, the number of poor declined by 21%, from nearly 26 million persons to about 20 million persons. In urban areas, while the percentage of the

^{14/} A discussion of the CBS poverty line is contained in Annex III.

population considered poor declined, the absolute number of poor increased slightly by 0.4 million persons. This was partially the result of a rapid rate of urbanization; Indonesia's urban population increased by nearly 20% during 1984-87.

Table 1.4: OFFICIAL ESTIMATES OF POVERTY: 1980-87

Sector	<u>Poor in Total Population (%)</u>			<u>Number of the Poor (mln)</u>		
	1980	1984	1987 /a	1980	1984	1987
Urban	29.0	23.1	20.1	9.5	9.3	9.7
Rural	28.4	21.2	16.4	32.8	25.7	20.3
Total	28.6	21.6	17.4	42.3	35.0	30.0
<u>Memo Item:</u>						
Total Population (mln)						
Urban /a				32.8	40.3	48.3
Rural /a				115.5	121.2	123.8
Total /a				147.9	162.0	172.4
SUSENAS Population (mln)				n.a.	156.5	167.6

/a Estimated.

Source: Kemiskinan Distribusi Pendapatan dan Kebutuhan Pokok, CBS, op.cit.

1.23 Alternative estimates of the incidence of poverty. Estimates of the incidence of poverty and its trend depend necessarily on the methodology used to construct the poverty line. Therefore, we have estimated alternative poverty lines to test the robustness of the conclusion regarding the trend of poverty which emerges from the Official estimates (see Table 1.5). An alternative estimate has been constructed for 1984 based upon the methodology developed in an earlier World Bank report.^{15/} The poverty line for 1987 was obtained by updating the 1984 poverty line using the modified CPI (see Annex II). The primary difference between this poverty line and the official poverty line lies in the assumed urban-rural price differential for the poor, which is about 70% with the official poverty line and only 10% in the alternative estimate. Estimates of the incidence of poverty, using this line, show an even more dramatic decrease in the incidence of poverty during the adjustment period, although the percentage of the population in poverty differs from the

^{15/} See, World Bank, 1984, op.cit. In 1984 prices, the alternative poverty line was estimated at monthly expenditures of Rp.11,000 for urban areas and Rp.9,900 for rural areas.

official poverty line. In addition, we have measured the incidence of poverty using the methodology of Sayogyo.^{16/} This rice-based poverty measure also confirms the result that poverty declined during the adjustment period.

Table 1.5: ALTERNATIVE ESTIMATES OF THE INCIDENCE OF POVERTY, 1980-87
(%)

	% of Population		
	1980	1984	1987
<u>Rural</u>			
Alternative estimate	44.6 <u>/a</u>	39.4	26.8
Sayogyo's method	23.6 <u>/b</u>	26.6	13.5
<u>Urban</u>			
Alternative estimate	19.7 <u>/a</u>	12.8	7.3
Sayogyo's method	26.9 <u>/b</u>	23.0	14.9
<u>Total</u>			
Alternative estimate	39.8 <u>/a</u>	33.0	21.6
Sayogyo's method	24.3 <u>/b</u>	25.7	13.9

/a Based on the methodology outlined in World Bank, (1984) op.cit.; see Annex III

/b For 1981.

Source: BPS and World Bank staff estimates. See, Ravallion and Huppi, 1989.

1.24 Using the alternative estimate of the poverty line, it is also possible to test the sensitivity of the conclusion that poverty declined between 1984 and 1987 to the possibility of an underestimation of price increases facing the poor. The 1987 poverty line would need to be raised from Rp.11,000 (in 1984 Jakarta prices) to Rp.12,818 (in 1984 Jakarta prices) for the percentage of the population in poverty in 1987 to equal that of 1984. This would require a near doubling of the inflation rate over the three year period to reverse the conclusion that poverty has decreased. Such an inflation rate is substantially higher than any plausible upward adjustments for errors in the CPI.^{17/} Thus, the conclusion that poverty has declined appears to be robust even considering the plausible range of measurement errors in the CPI.

^{16/} See, Sayogyo and G. Wiradi, Rural Poverty and Efforts for Its Alleviation in Indonesia: A Sociological Review, FAO, 1985. A brief discussion of this method is contained in Annex III.

^{17/} See Annex II.

1.25 The "near" poor. Given that the measurement of poverty is dependent on the particular "poverty line" chosen, we tested the sensitivity of the measurement of poverty to a change in the "poverty line." The effect of raising the official poverty line by 10% is illustrative (see Table 1.6).^{18/} The decline in the percentage of the population and the absolute number of poor using this line is roughly similar (but slightly lower) between 1984 and 1987. But, the percentage of the population considered "poor" would, of course, increase. The proportion of the population considered "poor" by this measure is about one third higher than at the official poverty line, despite the fact that the income level is only 10% higher. This substantial difference indicates that measurements of the number of poor and the percentage of the population in poverty are sensitive to the specification of the poverty line. Thus, while the number of Indonesians living in absolute poverty has declined and is about 17% of the population, many Indonesians have incomes only slightly above this level. These people, the "near poor," are, therefore, vulnerable to changes in their economic circumstances, such as increases in the price of an important staple, or a downturn in economic growth.

Table 1.6: PERCENTAGE AND NUMBER OF POPULATION BELOW
"10% HIGHER POVERTY LINE": 1984-87 /a

	<u>Percentage of Population</u>		<u>Number (mln)</u>	
	1984	1987	1984	1987
Urban	28.6	25.5	11.5	12.3
Rural	27.6	23.2	33.5	28.7
<u>Total</u>	<u>27.9</u>	<u>23.7</u>	<u>45.0</u>	<u>41.0</u>

/a This table tests the sensitivity of the estimate of poverty to raising the poverty line by 10%; see para. 1.24.

Source: World Bank staff estimates from 1984 and 1987 SUSENAS surveys.

1.26 Incidence of poverty by province. The decline in the incidence of poverty observed in aggregate for Indonesia over this period varied across regions (see Table 1.7). The largest decline in the incidence of poverty occurred in the rural areas of Java. This alone accounted for the bulk of the aggregate reduction in poverty achieved during the adjustment period given rural Java's high share of the total population. Similarly, there was a

^{18/} This is an increase in the 1987 official poverty line of Rp.1,029 (US\$0.63) per capita per month in rural areas and Rp.1,738 (US\$1.06) in urban areas.

decline in the rural areas of the eastern part of Indonesia.^{19/} In contrast, the western part of the Outer Islands, which has the lowest incidence of poverty, experienced the smallest overall decline. This is suggestive of regional variations in Indonesia's economic growth. Over time, the ability of labor to respond to changing employment opportunities is likely to reduce these differences; however, in the short term, labor mobility may be somewhat constrained by many factors including information market imperfections.

Table 1.7 INCIDENCE OF POVERTY BY AREA /a -- 1984-87

	1984			1987		
	Urban	Rural	Total	Urban	Rural	Total
Java and Bali	25.0	23.6	24.0	21.0	17.8	18.8
Outer Islands	<u>18.4</u>	<u>16.6</u>	<u>16.9</u>	<u>17.6</u>	<u>14.0</u>	<u>14.8</u>
Western <u>/b</u>	14.0	9.6	10.5	13.7	8.3	9.5
Eastern <u>/c</u>	30.3	29.7	29.8	28.4	24.2	24.9
<u>Total</u>	<u>23.1</u>	<u>21.2</u>	<u>21.6</u>	<u>20.1</u>	<u>16.4</u>	<u>17.4</u>

/a Estimates based on the Official Poverty Line, see Annex III.

/b Includes provinces in Sumatra and Kalimantan.

/c Includes the island of Sulawesi, and East Nusa Tenggara, West Nusa Tenggara, East Timor, Maluku, and Irian Jaya.

Source: World Bank staff calculations from 1984 and 1987 SUSENAS surveys.

1.27 In 1987, the incidence of poverty, however, remained substantial in the eastern areas (25%). Directing the Government's poverty reduction programs into these areas will be a key component of the overall antipoverty effort in the 1990s.

1.28 Incidence of poverty by principal source of household income.^{20/} An illustrative disaggregation of households by their "principal" source of income indicates that about half of the sampled households identified

^{19/} Changes in the incidence of poverty in the eastern areas of Indonesia may affected by differences in sampling procedures in Irian Jaya and East Timor between the 1984 and 1987 SUSENAS surveys. The 1987 SUSENAS sample was greatly expanded in these two provinces. In 1984, the SUSENAS represented only 11.9% of the population of East Timor and 9.7% of Irian Jaya; comparable figures for the 1987 SUSENAS survey are 96.4% and 97.1% respectively.

^{20/} The analysis in this section is based on the alternative poverty line (see para 1.22). Furthermore, since principal source of income was not a variable used in determining the sample frame in 1984, these results are only illustrative.

Table 1.8: INCIDENCE OF POVERTY BY PRINCIPAL SOURCE OF HOUSEHOLD INCOME /a
(%)

	<u>Distribution of Total Households</u>			
	<u>in the Population (%) /b</u>		<u>Households in Poverty (%) /c</u>	
	<u>1984</u>	<u>1987</u>	<u>1984</u>	<u>1987</u>
<u>Agriculture</u>	<u>54.0</u>	<u>49.7</u>	<u>45.1</u>	<u>32.3</u>
Laborer	9.0	8.6	52.2	38.1
Self employed	45.0	41.1	43.7	31.1
<u>Mining</u>	<u>1.3</u>	<u>0.8</u>	<u>30.6</u>	<u>17.9</u>
<u>Industrial Processing</u>	<u>5.9</u>	<u>6.4</u>	<u>21.1</u>	<u>14.1</u>
Laborer	4.0	4.3	16.7	11.1
Self employed	1.9	2.2	30.3	19.9
<u>Construction</u>	<u>4.0</u>	<u>4.3</u>	<u>26.1</u>	<u>17.4</u>
Laborer	3.5	3.8	26.9	18.5
Self employed	0.5	0.5	20.8	8.8
<u>Wholesale & retail trade</u>	<u>12.0</u>	<u>13.9</u>	<u>19.3</u>	<u>10.4</u>
Laborer	1.2	1.3	15.4	7.3
Self employed	10.8	12.6	19.8	10.7
<u>Transport & communication services</u>	<u>3.8</u>	<u>4.1</u>	<u>21.1</u>	<u>10.7</u>
Laborer	2.0	1.9	15.3	7.5
Self employed	1.8	2.2	27.8	13.5
<u>Community & personal services</u>	<u>12.2</u>	<u>14.9</u>	<u>11.5</u>	<u>7.8</u>
Laborer	10.2	12.6	10.1	6.6
Self employed	2.0	2.3	18.8	14.5

/a Based on the alternative estimate of the poverty line. See para 1.22.

/b This table excludes two sectors (electricity, gas & water; and finance & related services) due to a limited number of observations, as well as those respondents who did not know the family's principal source of income. Therefore, the population shares do not sum to 100%.

/c Percentage of households within each income category that are poor, i.e., 32.3% of all agriculture households were in poverty in 1987.

Source: World Bank estimates from the 1984 and 1987 SUSENAS surveys; see Ravallion and Huppi, 1989.

agriculture (farming, fishing and forestry) as their principal source of income in 1987, with the remaining half spread across the other sectors.^{21/} The incidence of poverty declined across all sectors of the economy (see Table 1.8). The highest incidence of poverty is in agriculture with more than 30% of agricultural households still in poverty in 1987. Low levels of poverty prevail in several high wage sectors, such as mining, electricity, gas and water, and finance and related services. The data indicate that about three quarters of Indonesia's poor reside in households that identify agriculture as their principal source of income. Combining these data with the regional incidence of poverty indicates that agriculture must remain a key priority for the Government's overall poverty reduction effort, particularly in the Outer Islands where opportunities for off-farm employment in the higher wage sectors are more limited.

1.29 Caloric intake levels. From the SUSENAS surveys, it is also possible to measure changes in caloric intake between 1984 and 1987 (see Table 1.9).^{22/} Mean caloric intake increased by 5.7% over the period. Moreover, the 1987 caloric intake distribution lies below the 1984 intake levels up to the upper 9% of the distribution (see Figure 1.2). Thus the proportion of Indonesia's population that could be considered to be undernourished declined over the

Table 1.9: AVERAGE CALORIC INTAKE PER CAPITA

	1984	1987	% change
Rural	1,804	1,903	5.5
Urban	1,609	1,736	7.9
<u>Total</u>	<u>1,758</u>	<u>1,859</u>	<u>5.7</u>

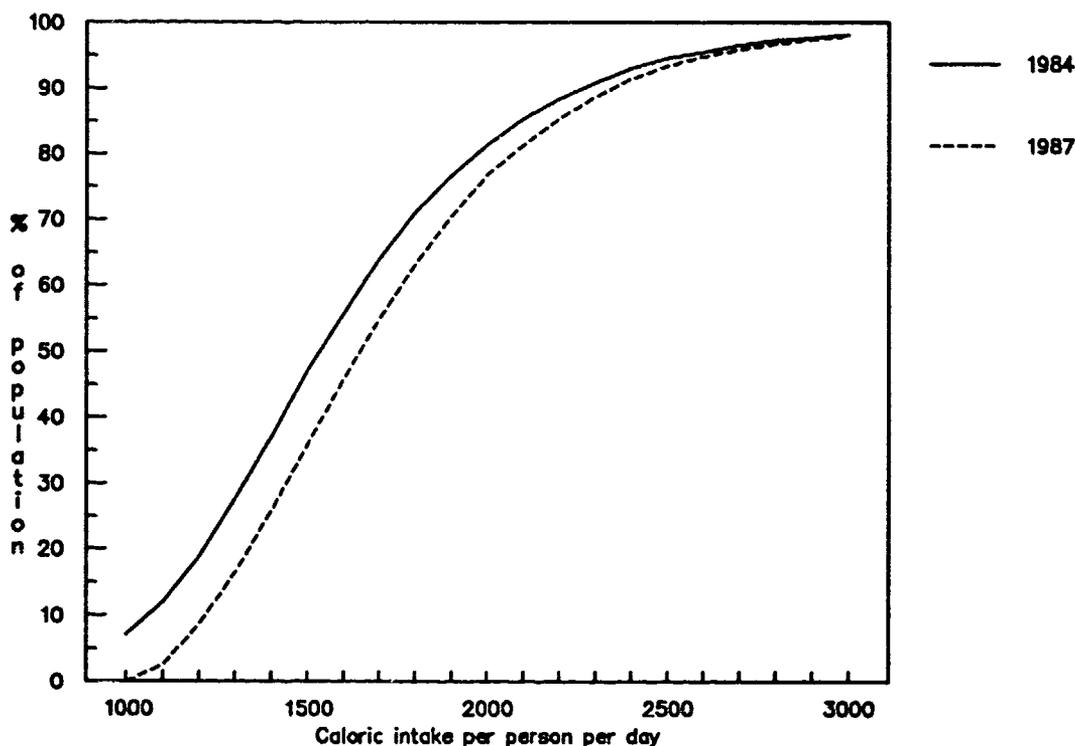
Source: World Bank Staff calculations from the 1984 and 1987 SUSENAS surveys.

^{21/} Work on the SUSENAS has found that the household's "stated" principal source of income may not necessarily be the sector from which the household derived its largest share of income. See for example, "Prospects for Labor Absorption in Agriculture in Repelita V", ILO, 1989.

^{22/} The SUSENAS survey does not contain calorie data for food consumed outside the home, or "prepared food". So, average caloric intake levels, as shown in Table 1.9, are a lower bound on actual levels. Estimates of caloric intake from prepared food indicate that the actual level of caloric intake was at least 7% higher in 1987.

period.^{23/} This corroborates the earlier finding that poverty declined during the 1984-87 period. Consistent with the results from past SUSENAS surveys, caloric intake per person is higher in rural areas than urban areas; this is partly explained by a higher consumption of food outside the home, in urban areas.

Figure 1.2: DISTRIBUTION OF CALORIC INTAKE



Source: 1984 & 1987 SUSENAS surveys.

^{23/} This holds for any caloric requirement up to 2,500 calories per person per day, which is quite a high level. The conclusion that aggregate undernutrition fell over the period also holds when one uses more sophisticated measures of undernutrition, such as including an allowance for interpersonal differences in caloric requirements; see Ravallion and Huppi, 1989, for a further discussion.

1.30 Summary. Recognizing the inherent difficulties in measuring poverty both at one point in time and over time, we examined the incidence of poverty in Indonesia and how it has changed over time. This analysis included an examination of the sensitivity of the results to plausible measurement errors in the CPI. The basic conclusions are:

- (a) the percentage of the population in poverty has decreased during the 1980s in both urban and rural areas. This conclusion is robust to alternative specifications of the poverty line and is also supported by an analysis of caloric intake;
- (b) the above result is robust throughout the entire distribution of consumption, i.e., irrespective of the particular poverty line chosen; and
- (c) the result is robust to plausible measurement errors in the rate of inflation.

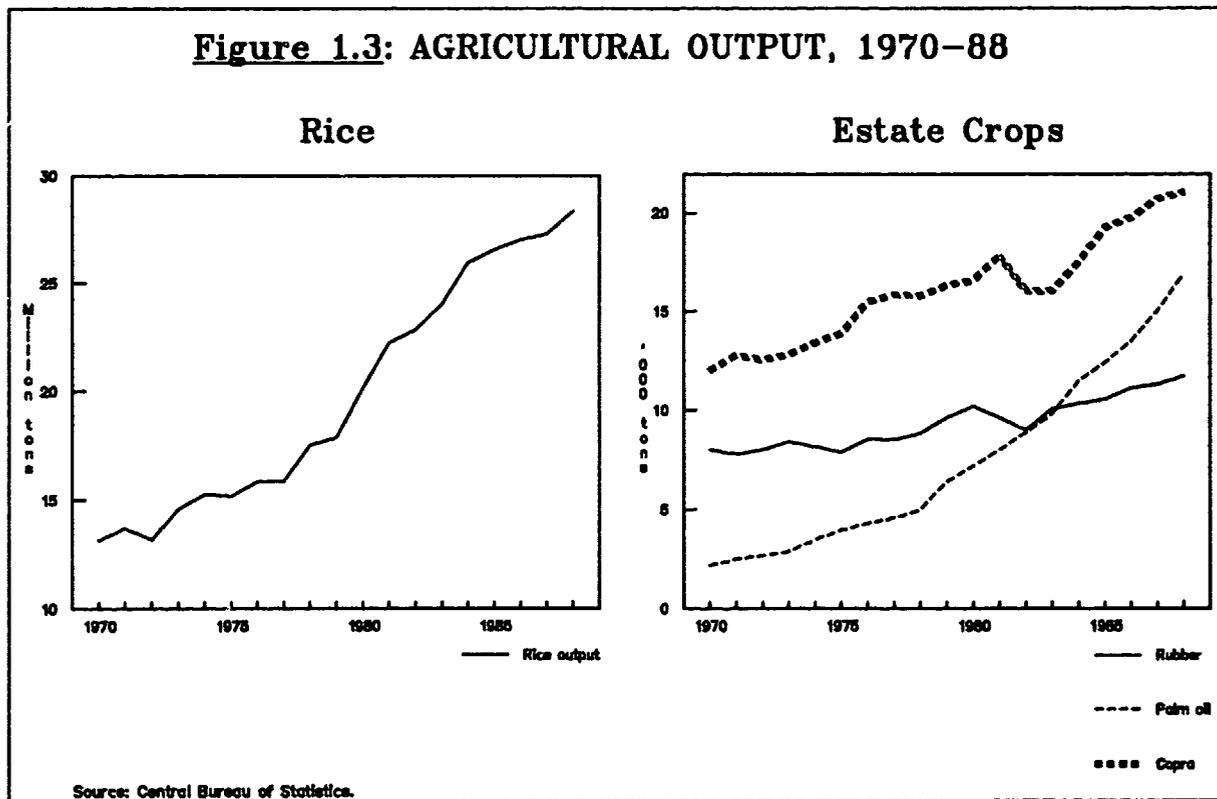
D. Factors Underlying the Reduction in Poverty

1.31 In spite of the magnitude of the external shocks that the Indonesian economy experienced since 1983, poverty declined during the 1984-87 period. The Government's success in reducing poverty during the adjustment period is attributable to the conditions prevailing prior to the external shocks, and the nature and speed of the Government's policy response to these external shocks. Two elements of the Government's past development strategy established important preconditions for the reduction which occurred during 1984-87. One important precondition was Indonesia's relatively low income inequality; this created a situation where large reductions in poverty could be generated from modest growth in per capita consumption. A second was the nature of the development strategy pursued by the New Order Government during the 1970s and early 1980s. Two elements of this strategy were especially important:

- (a) the Government's past programs and policies to support the agricultural sector and rural areas had established a solid base for rural incomes and employment. The agricultural sector, particularly rice and tree crops, experienced rapid growth during the late 1970s and early 1980s (see Figure 1.3). The momentum of this growth in agriculture continued into the mid-1980s; and
- (b) the Government had made substantial investments in social infrastructure (for example, primary schools and health facilities). These facilities were largely in place, particularly in rural Java where the bulk of Indonesia's poor live, prior to the onset of the adjustment process. The benefits from this infrastructure in the form of human resource development began to be realized only in the 1980s.

1.32 The Government's response to the external shocks was a key element in the continued rate of reduction in poverty throughout this period. By undertaking both prompt macroeconomic adjustment measures and comprehensive structural reforms, the Government was able to achieve satisfactory progress on economic adjustment, while maintaining positive growth rates throughout the period. At the same time, the evidence is that poverty declined. This was possible because the adjustment program contained elements which were geared towards sustaining progress on poverty reduction. Two of these were particularly important:

- o the pace and pattern of economic growth engendered by the Government's macroeconomic and deregulation policies; and
- o the management of the public expenditure program protected poverty-related expenditures.



1.33 The Government's growth-oriented adjustment effort supported a pace and pattern of economic activity sufficiently robust to allow improvements in real earnings for most workers belonging to poorer income groups. Overall, employment grew faster relative to output in 1982-87 than in 1976-82, as evidenced by the rise in the elasticity of employment with respect to output

from 0.44 in 1976-82 to 0.65 in 1982-87.^{24/} An important factor contributing to this was the change in the composition of output during the adjustment period. In rural areas, despite a slowing of rice production, which began in 1984, the adjustment burden was lessened. The real exchange rate depreciations largely offset lower agricultural export prices. Moreover, there was some diversification into more profitable nonrice crops, especially fruits and vegetables. The importance of these factors in aggregate poverty reduction during the adjustment period is illustrated by the decline in the incidence of rural poverty in East and Central Java, where most of the gains were realized by self-employed farmers.^{25/} This was critical to the overall reduction in poverty, because the bulk of Indonesia's poor reside in the rural areas of Java and depend upon agriculture for an important part of their livelihood.

1.34 In manufacturing, the combination of trade and industrial deregulation, and real exchange rate adjustments led to a rapid recovery in manufacturing growth and investment. Private investment declined noticeably up to 1985, but has recovered sharply since then. The non-oil industrial expansion triggered by these policy reforms, and the associated large investment outlays led to an increase in the employment of unskilled and semiskilled labor in manufacturing industries.^{26/}

1.35 There is also evidence that real wages for unskilled agriculture workers in Java and for industrial workers grew, albeit modestly, during the adjustment period (see Annex IV). As a result, real earnings of workers in agriculture and industry continued to grow, as both the level of employment and real wages increased. Therefore, the Government's ability to sustain a reasonable pace of economic growth, based on higher economic efficiency and a more labor-intensive pattern of production, was a key factor in Indonesia's ability to reduce poverty even as major adjustments were implemented to restore financial stability. This has important implications for Indonesia's development strategy in the 1990s.

1.36 Public expenditure policies were also critical in lessening the effect of economic adjustment on lower income groups. The brunt of the adjustment program fell on the public sector. Total real public expenditures were cut by about 19% between 1982/83 and 1986/87; after 1986/87, public expenditures increased modestly in real terms (see Table 1.10). One of the noteworthy achievements of the Government's management of this reduction in public expenditures and an important reason for the decline in poverty

^{24/} These elasticities are calculated from the 1976 and 1987 Labor Force surveys (SAKERNAS) and labor force data collected as part of the 1982 SUSENAS survey.

^{25/} Data from the SUSENAS survey indicates that between 1984 and 1987, the incidence of poverty among self-employed farm households fell from 65% to 41% in Central Java, 46% to 25% in Yogyakarta and 54% to 39% in East Java, between 1984 and 1987.

^{26/} The available evidence suggests that manufacturing employment in enterprises with more than 15 employees increased by 9.9% p.a. during 1985-88, compared to only 5.1% p.a. during 1982-85.

achieved during this period, is that the effect of the reduction in public expenditures on the poor was moderated. Three basic elements of the Government's expenditure management were responsible for this outcome:

- (a) the reductions fell most heavily on development expenditures, while routine expenditures were protected;
- (b) transfers to the provinces were protected relative to other expenditures; and
- (c) development expenditures were reallocated into sectors of the greatest potential benefit to the poor.

Table 1.10: CENTRAL GOVERNMENT EXPENDITURES -- 1982/83-1986/87
(Constant 1983/84 prices)

	----- Rp. billion -----					Growth 1982/83-86 (%)	
	1982/83	1983/84	1984/85	1985/86	1986/87	Per Annum	Cumulative Total
<u>Routine expenditures /a</u>	<u>9.295</u>	<u>8.333</u>	<u>9.099</u>	<u>10.197</u>	<u>9.977</u>	<u>1.2</u>	<u>7.3</u>
Transfers	1,617	1,547	1,745	2,194	2,198	5.2	35.9
Interest	1,033	1,145	1,565	1,579	1,798	9.7	74.0
Other	6,645	5,641	5,789	6,424	5,981	-1.7	-10.0
<u>Development expenditures /b</u>	<u>9.873</u>	<u>8.743</u>	<u>7.876</u>	<u>8.538</u>	<u>5.645</u>	<u>-8.9</u>	<u>-42.8</u>
Transfers	1,247	1,315	1,228	1,124	994	-3.7	-20.3
General INPRES	678	539	485	478	435	-7.1	-35.8
INPRES SD	338	549	513	447	381	2.0	12.5
Other INPRES	231	227	230	199	178	-4.2	-22.9
Project aid	2,638	3,106	3,113	3,003	2,782	0.9	5.4
Other	5,988	4,322	3,535	4,411	1,869	-17.6	-68.8
<u>Total expenditures /c</u>	<u>19.168</u>	<u>17.076</u>	<u>16.975</u>	<u>18.735</u>	<u>15.622</u>	<u>-3.3</u>	<u>-18.0</u>
Transfers	2,864	2,862	2,973	3,318	3,192	1.8	11.4
Other	16,304	14,214	14,002	15,417	12,430	-4.3	-23.2
<u>Memo Items:</u>							
Development expenditures (excluding Project Aid)	<u>7.235</u>	<u>5.637</u>	<u>4.763</u>	<u>5.535</u>	<u>2.863</u>	<u>-14.3</u>	<u>-60.4</u>
Transfers	1,247	1,315	1,228	1,124	994	-3.7	-20.3
Other	5,988	4,322	3,535	4,411	1,869	-17.6	-68.8

/a Excludes amortization but includes fertilizer subsidy and defense spending. Data on interest are obtained from the World Bank's Debt Reporting System.

/b Residual.

/c Based on estimates of resources availability from domestic revenues and grants, external borrowing (net), and domestic borrowing (net).

Source: Ministry of Finance and World Bank Staff calculations.

1.37 The Government's overall expenditure reduction strategy was to cut development expenditures and preserve public consumption. Between 1982/83 and 1986/87, routine expenditures grew by about 7.3% in real terms, while development expenditures were reduced by about 43%. By allowing routine expenditures to rise, the Government was able to fund many essential operations and maintenance expenditures and thereby, continue many of its ongoing programs, including those in agriculture and the social sectors. This permitted the productive use of much of the physical and social infrastructure created in the late 1970s and early 1980s.^{27/} Moreover, the Government also instituted a freeze on civil service wages and salaries during this period, which freed some resources for other complementary inputs.

1.38 Transfers to the local governments were also protected. These remained basically constant in real terms, while all other public expenditures declined by 3% p.a.^{28/} Excluding interest payments and project aid, the share of total Central Government expenditures allocated to transfers was increased from 19% in 1982/83 to 29% in 1986/87. These transfers finance over two thirds of total public expenditures by local governments and thus, they are an important factor in determining local aggregate demand.^{29/} Routine transfers from the Central Government are used by local governments, primarily to finance staff salaries, many of which are in important social sectors (approximately 60% of the salary component is spent on teachers and about 5% on health care employees). Transfers for development expenditures--the General and Sectoral INPRES--also provide an important instrument to help

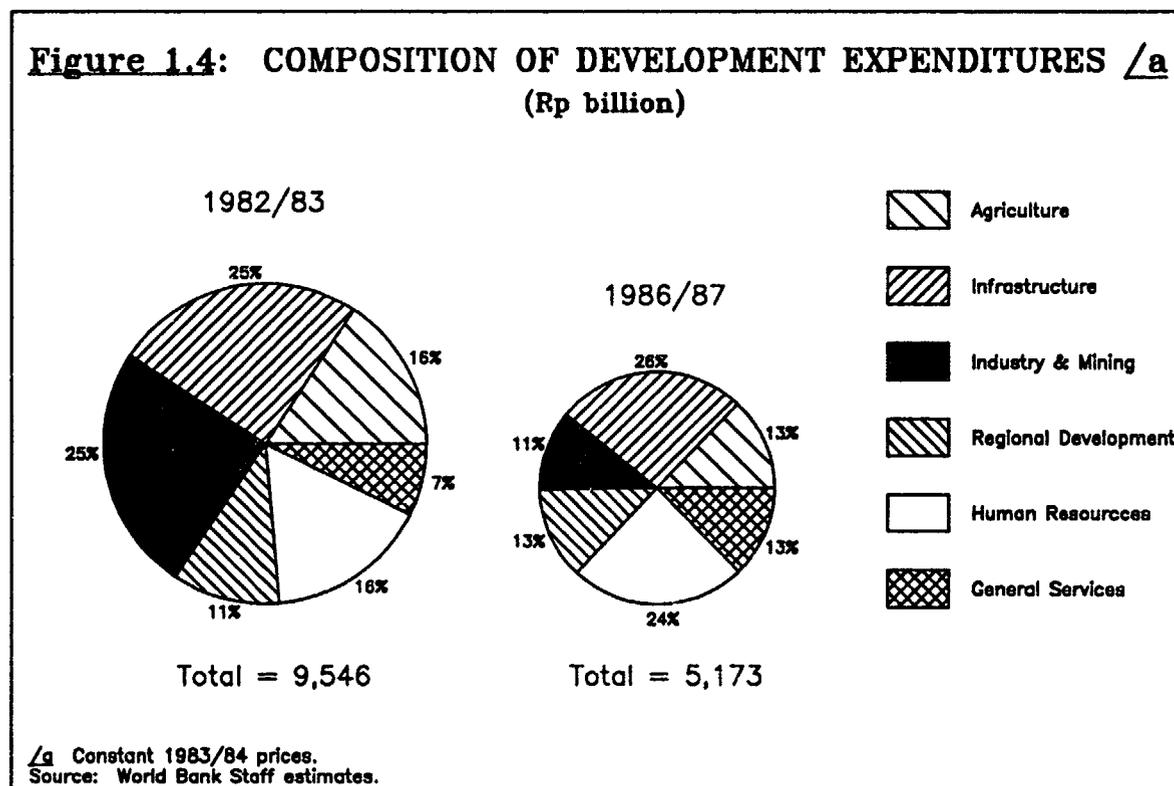
^{27/} The overall level of O&M continues to be a problem, reflecting a lack of balance between current and capital spending during the oil boom period of the late 1970s. The Government recognizes that raising O&M expenditures to a more appropriate level is a priority for the 1990s.

^{28/} The Central Government transfers resources to local governments mainly via three programs: (i) the SDO (Subsidi Daerah Otonom), a regional transfer, included under routine expenditures, which finances salaries, mostly in the education and health sectors, and some goods and services; (ii) the General INPRES, which provides budgetary support to the three tiers of local government (provincial, district and village) to finance both routine and development expenditures, and is included under development expenditures; and (iii) the Sectoral INPRES, which allocates resources for projects within five specific sectors (Health, Schools, Roads, Reforestation and Regreening, and Markets) and is also included under development expenditures. The PBB (formerly IPEDA), a property tax is also classified as a transfer by the Government, but it is not treated as such here.

^{29/} See Annex Table 3.

the poor.^{30/} Unlike programs in other oil-exporting countries, INPRES expenditures are not just income transfer programs. They are used to finance physical and social infrastructure which contributes significantly to regional development.^{31/} These projects are generally either small-scale construction projects which generate low-paid unskilled employment or are used to finance social services.^{32/}

1.39 As noted earlier, the brunt of the adjustment in budgetary expenditures was borne by development expenditures, which declined by about 33% in real terms between 1982/83 and 1988/89. In reducing development expenditures, the Government made significant changes in the sectoral composition of development outlays (see Figure 1.4). There were several important features of this change:



^{30/} INPRES transfers were protected relative to other development expenditures. Over the period 1982/83-86/87, development expenditures declined by 43% in real terms, while INPRES transfers declined by only 20%. After 1986/87, INPRES transfers declined more rapidly due to the primary school INPRES (INPRES S.D.) which declined significantly with the achievement of virtually complete primary school enrollment; however, other components of INPRES transfers continued to decline relatively less than total development expenditures.

^{31/} See, Alan Gelb, *op. cit.*

^{32/} For a profile of projects financed under the district INPRES (Dati II), see Annex Table 4.

- (a) the share devoted to industry and mining was reduced sharply. Many large capital-intensive industrial projects, which were initiated during the second oil price boom, were dropped, and in the mining sector, several major projects were eventually developed by the private sector;
- (b) the share of development expenditures was also substantially reduced in areas where implementation constraints or environmental concerns were severe. For example, the proportion of expenditures allocated to the transmigration program was reduced substantially;
- (c) a larger share was allocated to poverty-related sectors, such as food and export agriculture, and human resource development;^{33/} and
- (d) the share of expenditures on regional development, primarily the general INPRES program, was increased.

1.40 This reallocation of development expenditures had two important effects in ameliorating the social costs of adjustment for the poor. First, there was an expenditure-switching effect, as the employment coefficients were higher in those sectors into which development expenditures were reallocated.^{34/} A rough analysis using these coefficients suggests that employment levels resulting from development expenditures were about 20% higher in 1986/87 than if the composition of development expenditures had remained unchanged from 1982/83. Second, expenditures were switched to sectors--agriculture and human resource development--where development expenditures are of the greatest potential benefit to lower income groups. There remains scope to improve the effectiveness of development expenditures for poverty alleviation by focussing them more sharply on the main intrasectoral priorities and by enhancing the efficiency of the delivery systems of many social programs. Overall, however, these changes in expenditure priorities did cushion the poor from the effects of the reduction in public expenditures.

^{33/} A notable exception was the health sector, where the proportion of development expenditures devoted to the sector actually declined slightly. This is discussed further in Chapter IV.

^{34/} Estimates of the employment coefficients of development expenditures for various sectors are shown on Annex Table 6.

II. A STRATEGIC OVERVIEW

A. Overview

2.1 As noted in Chapter I, the Government has made substantial progress in reducing poverty in the last two decades; this performance has been particularly impressive since 1983, given the magnitude of the external shock that the economy has suffered. Nevertheless, the Government recognizes that programs and policies for poverty reduction remain a priority for the REPELITA V period and beyond. There are at least three reasons why poverty remains a key challenge for Indonesia in the 1990s:

- (a) the number of Indonesians living in absolute poverty is still high and a significant proportion of the population, the "near poor", have incomes only slightly above the poverty line;
- (b) the percentage of people in absolute poverty and its rate of change varies significantly across different areas; and,
- (c) the rate of growth of the labor force is expected to be high throughout the 1990s.

Moreover, the changing nature of the poverty problem--the relatively larger decline of poverty in Java, slower growth of incomes in some of the Outer Islands, and regional disparities in the availability of social and basic services, which are in turn closely associated with income differentials--necessitates some change in the Government's past approach to poverty reduction, as broadly recognized in REPELITA V.

2.2 This Chapter first discusses in detail the characteristics of the poor, which are relevant to designing a strategy for poverty reduction during the REPELITA V period and beyond (Section B). Then a general strategy for poverty reduction is outlined (Section C). The strategy contains three basic ingredients: (i) programs and policies to increase incomes and raise productivity; (ii) programs and policies to improve the availability of and access to social and basic services; and, (iii) the use of narrowly targeted micro-relief programs to provide immediate assistance to those most in need. This strategy is consistent with the broad thrust of the Government's growth and poverty reduction objectives as outlined in REPELITA V. Several new Government initiatives specifically introduced in REPELITA V for reducing poverty are then discussed (Section D). This then sets the stage for the detailed discussions of sectoral poverty programs and policies in agriculture, and human resource development which follow (Chapters III, IV and V), as well as a discussion of institutional arrangements for poverty reduction (Chapter VI).

B. The Nature of the Poverty Problem

Introduction

2.3 Despite the progress made in the past two decades, poverty reduction remains a key priority for several reasons. First, despite substantial real income gains for all segments of the Indonesian population during the past two decades, the number of poor remains high. As discussed in Chapter I, there are about 30 million Indonesians (about 17% of the population) living below the income level necessary for an adequate standard of living. There is also a large number of people, the "near" poor, living with incomes only slightly above the "poverty line," who remain vulnerable to changes in Indonesia's circumstances. Second, the variation in the incidence of poverty across areas of Indonesia is high. There have been substantial reductions in the incidence of poverty over the last decade in some areas, while other areas have benefitted less. Similarly, variations in the availability of social and basic services also exist throughout Indonesia which are closely correlated with income differentials.^{1/} Third, while Indonesia has made significant progress in the last two decades in improving living standards, it still lags behind a number of Asian countries in social indicators, such as life expectancy, infant mortality and nutritional status (see Table 2.1). Within Indonesia, the variation of these social indicators across regions, across income groups and between urban and rural areas is substantial, indicating that those who live below or near the poverty line have not only low incomes, but also have to face health and nutrition problems.

Table 2.1: COMPARATIVE SOCIAL INDICATORS

Country	GNP per Capita (US\$)	Life Expectancy at Birth	Infant Mortality Rate	Population per Physician	Calorie Supply per Capita	Malnutrition 2nd & 3rd Degree (%)	Babies with Low Birth Weight (%)
Indonesia	450	60	71	9,460	2,579	30	14
China	290	69	39	1,000	2,630	n.a.	6
Malaysia	1,810	70	35	1,930	2,730	n.a.	9
Pakistan	350	55	112	2,900	2,315	78	25
Philippines	590	63	53	6,700	2,372	22	18
Sri Lanka	400	70	29	5,520	2,401	28	28
Thailand	850	64	51	6,290	2,331	5	12

Sources: World Development Report, 1989, World Bank, Oxford University Press; Social Indicators of Development, 1988, World Bank; 1988 Asia and Pacific Atlas of Children in National Development, UNICEF and ESCAP.

^{1/} Differential access to education, health, rural water supply and sanitation, and urban services are discussed in detail in Chapters IV and V.

2.4 And finally, reducing further the number of poor in Indonesia will be made more difficult by the expected growth rate of the population and the labor force. The labor force is expected to grow by about 2.4 million persons p.a. through the year 2000, with the Outer Islands growing faster than Java, and urban areas expanding more rapidly than rural areas. The absorption of these new entrants and improvements in the earnings of existing workers will be complicated by a changing economic structure. The rice sector, which provided an important source of income growth and employment in the past, is expected to absorb only limited amounts of additional labor. The pattern of economic growth, and hence employment generation and income growth, will depend largely upon the development of secondary food crops, nonfood export agriculture, the non-oil manufacturing sector, and the creation of productive opportunities in the service sector.

2.5 The Government is aware that designing a program to achieve further poverty reduction and more balanced regional development in Indonesia will be a key challenge during the 1990s. While the Government's past growth-oriented approach has been generally successful in reducing both the number and percentage of poor Indonesians, the reduction of poverty has been uneven throughout the country implying that some areas have benefitted more than others. The remainder of this section identifies the changed nature of the poverty problem, in terms of regional and household characteristics, which is relevant for designing a poverty strategy for the 1990s.

Regional Characteristics of the Poverty Problem

2.6 During the 1980s, there have been important changes in the spatial incidence of poverty in Indonesia. These stem from the variation in the decline of poverty across regions. Two changes are particularly noteworthy: (i) the dramatic decline in the number and percentage of poor in Java; and, (ii) the slower decline in the Outer Islands. In 1987, the highest incidence of poverty is in the eastern part of Indonesia, in contrast to 1980 when provinces on Java had the highest incidences of poverty.^{2/} This outcome occurred because of a dramatic drop in the incidence of poverty in rural Java, particularly Central Java, East Java, and Yogyakarta.

2.7 One important reason for this change is the variation in growth rates among different areas of Indonesia (see Table 2.2). The growth of real consumption expenditures during 1981-87 ranged from nearly 4% p.a. on Java, to less than 1% on Sulawesi. Similar variations are evident in the growth rates of regional non-oil GDP. This indicates that the economy's growth, which was based on non-oil manufacturing, export agriculture and rice, benefitted some areas, particularly Java and Sumatra. Moreover, some areas in the eastern provinces also experienced reasonable rate of growth, particularly in Nusa Tenggara. However, income levels in other areas were affected more by the

^{2/} This compares the provincial incidence of poverty in 1987 using the Official Poverty Line with 1980 estimates by the World Bank (see, World Bank, 1984, op.cit).

economic adjustment. In these areas, the Government's public expenditure program had been an important source of income and employment; the large decline in expenditures, therefore, directly affected incomes through a reduction in off-farm activities.^{3/} Moreover, unlike Java, many of these areas were also indirectly affected since the reduction in public expenditures caused a slowdown in the construction of physical and social infrastructure which is necessary to support income growth.

Table 2.2: PROVINCIAL GROWTH RATES PER CAPITA, 1981-87 ^{/a}
(% p.a.)

	1981-87 Consumption Expenditures ^{/b}	1983-87 Non-oil Regional GDP
Sumatra	2.86	3.39
Java	3.86	4.65
Kalimantan	1.27	4.08
Sulawesi	0.86	2.96
Others ^{/c}	2.59 ^{/d}	3.70

^{/a} Growth rates are population-weighted averages of provincial growth rates.

^{/b} As measured by SUSENAS consumption expenditures deflated by the provincial CPI.

^{/c} This includes the provinces of Bali, West Nusa Tenggara, East Nusa Tenggara, Maluku, East Timor and Irian Jaya.

^{/d} Excludes East Timor and Irian Jaya because of a lack of data.

Source: World Bank staff estimates and the Central Bureau of Statistics.

2.8 Comparing the distribution of the poor in Indonesia to the distribution of the total population indicates that the share of the poor is higher in Sulawesi and the other eastern areas, slightly higher in Java, and relatively lower in Sumatra and Kalimantan (see Table 2.3). Despite the income gains and the large decline in the percentage of the population that is poor in Java during the 1980s, the largest absolute number (about 66%) of the

^{3/} A recent World Bank study of transmigration indicated that a substantial portion, more than 50% in a number of cases, of settler's incomes was derived from non-farm activities, many of which were linked to the Government's expenditure program. See, Indonesia: Transmigration Program in Perspective, A World Bank Country Study, 1988, Chapter II.

poor still reside in Java. The other significant concentrations of poverty are in Sumatra and the eastern areas. The distribution of the poor implies that a major part of Indonesia's poverty reduction efforts must continue to be directed towards the eradication of poverty on Java.

Table 2.3: PERCENTAGE OF INDONESIA'S POPULATION AND POOR BY AREA:
1980-1987

	<u>Population Distribution /a</u> 1985	<u>% of Total Number of Poor /b</u> 1987
Sumatra	19.9	11.2
Java	60.9	66.0
Kalimantan	4.7	2.5
Sulawesi	7.0	9.0
Others /c	<u>7.5</u>	<u>11.3</u>
	100.0	100.0

/a Data from the 1985 SUPAS.

/b The percentage of the population that is poor is calculated using the Official Poverty Line.

/c This includes the provinces of Bali, West Nusa Tenggara, East Nusa Tenggara, Maluku, East Timor, and Irian Jaya.

Source: World Bank, 1984 op.cit. and World Bank staff calculations.

2.9 While poverty is still concentrated in Java, the variation in the incidence of poverty and in average per capita incomes in Java is high (see Table 2.4).^{4/} Average income levels in some districts of Java are also below the provincial means and are near the poverty line. A close examination of the poorest districts of Java reveals that they are: upland areas, particularly the limestone hills of Central and East Java; Madura; relatively further away from urban areas; and, fishing villages along the coasts of West and East Java. This pattern is also consistent with recent village studies in Java, which have found that low-lying, irrigated rice villages are relatively better off and have experienced significant income gains over the past decade.^{5/} Therefore, subsidies and programs designed to reach irrigated rice farmers may not be as effective in reaching the poor as in the past.

^{4/} These calculations are illustrative; the small number of observations by district (about 100 households) prohibit a statistical analysis of the incidence of poverty at the district level.

^{5/} For example, see William Collier et al., op.cit.

Table 2.4: INCOME CHARACTERISTICS OF SELECTED RURAL DISTRICTS IN JAVA, 1987 /a

	Ratio of Mean Household Expenditures in District to Provincial Mean
<hr/>	
<u>West Java</u>	
Cianjur	72.0
Garut	69.3
Tasikmalaya	74.1
Cirebon	77.7
<u>Central Java</u>	
Wonosobo	77.1
Wonogiri	66.7
Sragen	72.0
Grobogan	66.5
Blora	81.4
<u>East Java</u>	
Trenggalek	58.1
Tulungagung	73.7
Madiun	60.0
Bangkalan	66.4
Sumenep	72.8

/a As measured by per capita consumption expenditures.

Source: World Bank staff estimates from 1987 SUSENAS survey.

2.10 This discussion has highlighted two important characteristics of the regional profile of poverty in Indonesia:

- (a) income gains during the 1980s in Indonesia have not been evenly distributed across the provinces, with corresponding variations in the reduction of poverty. While economic growth is likely to ultimately benefit all areas of Indonesia in the medium term, there may be a need for special initiatives in some provinces, particularly in the eastern areas to promote more balanced economic development and poverty reduction; and
- (b) the bulk of the poor, about 66%, still reside on Java. However, poverty on Java is increasingly concentrated in specific areas that could be more effectively reached by existing Government programs.

This analysis of the regional incidence of poverty suggests that there is considerable scope for improving the targeting of existing poverty reduction programs.

Household Characteristics of the Poor

2.11 A comparison of the demographics of poor households with nonpoor households also yields some important conclusions for designing poverty reduction programs.^{6/} Poor households are larger and have more children (see Table 2.5). As a result, the incidence of poverty for people and children is higher than for households. In an earlier study, it was also shown that poor households have more members in the labor force.^{7/}

Table 2.5: PROFILE OF INDONESIAN HOUSEHOLDS, 1987

	<u>Distribution of Households</u>			<u>Poor Households</u>		
	Urban	Rural	Total	Urban	Rural	Total
Household size (persons)	4.9	4.5	4.6	5.8	5.4	5.5
Average number of children (aged 0-9)	1.1	1.2	1.2	1.8	1.7	1.7
<u>Sex of Head of Household (%)</u>						
Male	87.1	86.7	86.8	87.1	87.5	87.5
Female	12.9	13.3	13.2	12.8	12.5	12.5
<u>Education of Head of Household (%)</u>						
No schooling	10.4	26.4	22.3	31.7	34.8	34.6
Not completed primary school	19.4	36.6	32.2	34.4	41.2	40.8
Primary school	27.0	26.3	26.5	25.5	20.8	21.1
Junior high school	16.3	5.6	8.3	5.7	2.4	2.6
Senior high school	21.7	4.5	8.9	2.6	0.8	0.9
Academy or university	5.2	0.6	1.8	0.0	0.1	0.1
<u>Literacy of Head of Household (%)</u>						
Literate	89.2	71.6	76.2	65.7	60.9	61.1
Illiterate	10.8	28.4	23.8	34.3	39.1	38.9
<u>Age of Head of Household (%)</u>						
Under 30	16.3	15.0	15.4	9.2	10.5	10.4
30-39	27.9	27.0	27.2	26.6	30.0	29.8
40-49	24.0	23.0	23.2	27.2	26.1	26.1
Over 50	31.8	35.0	34.2	37.0	33.4	33.7

Source: World Bank staff estimates from 1987 SUSENAS survey.

^{6/} For this section, people in the lowest decile of the income distribution are considered poor; others are considered nonpoor.

^{7/} See, Dov Chernichovsky and Oey Meesook, "Poverty in Indonesia: A Profile", World Bank Staff Working Paper, No. 671, 1984.

2.12 The classification of households by the characteristics of household heads also provides information for understanding the reasons households are in poverty, as well as for targeting poverty programs more effectively. A classification of households by the sex of the head of the household indicates that about 87% of households in both urban and rural areas are headed by males.^{8/} This represents a small increase from a decade earlier, when about 84% of households were headed by males. A striking finding is that the incidence of poverty in male-headed households is slightly higher than in female-headed households, although statistically the difference is insignificant.^{9/}

2.13 The incidence of poverty in households whose head is less than 30 is slightly lower than the proportion of all households headed by someone under the age of 30. However, the distribution of poverty by age category of the household head very closely resembles the distribution of all households, indicating no significant link between the age of the household head and poverty.

2.14 The educational attainment of the head of the household is closely associated with the income status of households. Virtually all poor households (96.5%) in Indonesia are headed by a person with no more than a primary school education and three quarters of poor household heads have less than a primary school education. This is particularly striking in urban areas where less than one third of all urban households have less than a primary school education, but two thirds of poor urban households have this characteristic. The existing differential between education levels of household heads in urban and rural areas is one important reason for differences in the incidence of poverty. This indicates that the Government's emphasis on raising primary school enrollments has been appropriate and over the long term is likely to have a positive effect on reducing poverty.

2.15 Also closely linked to the poverty status of the household is whether the head of the household is literate (i.e., can read and write). About three quarters of all heads of households in Indonesia are literate; in urban areas, the percentage is almost 90%. However, the rate of illiteracy is almost twice as high among the heads of poor households, indicating that the ability to read and write is an important correlate of a household's economic status. Since the large expansion in primary school infrastructure has largely occurred since 1978, many Indonesians, particularly in rural areas, who were

^{8/} By social convention, a woman is seldom recognized as the head of a household in Indonesia, if there is an adult male in the household. Also, male-household heads constitute a larger proportion of "circular" migrants to urban areas and therefore, may be absent from the household for long periods. For these reasons, more rural households may be de facto headed by women than indicated by the SUSENAS survey.

^{9/} The null hypothesis that female-headed households are poorer than male-headed households in Indonesia is not substantiated by the 1987 SUSENAS. It is not possible from the SUSENAS data to identify issues of the intrahousehold distribution of consumption. Women may be disadvantaged within households relative to men and therefore, suffer disproportionately from lower incomes.

of primary school age prior to the late 1970s did not have an opportunity to obtain a primary school education. This is reflected in their literacy rates and hence, their economic status. Programs in non-formal education to combat illiteracy thus appear to be an important component of a poverty reduction strategy.

2.16 This brief discussion of the characteristics of Indonesian households in general and poor households in particular has several implications for designing a poverty reduction strategy:

- (a) the poor have larger families, more children and higher dependency ratios than the nonpoor;
- (b) the educational attainment of the head of the household and the ability to read and write are closely correlated with the economic status of the household. This implies that education level and literacy could be useful in identifying the poor especially in urban areas;
- (c) the sex of the household head is not a good indicator of the income status of a household, as the incidence of poverty is roughly the same between female and male-headed households; and
- (d) age of the household head is also not a good indicator of the economic status of the household.

C. A Strategy for Poverty Reduction

Introduction

2.17 The first thrust of a poverty reduction strategy is the achievement of sustained economic growth. A review of evidence across developing countries suggests that economic growth is a major factor in the reduction of poverty.^{10/} Economies with sustained economic growth and increased efficiency of resource use have generally experienced significant reductions in poverty. Without economic growth, it is not possible to alleviate poverty over the long term. Furthermore, antipoverty programs need a supportive policy environment--i.e., appropriate price incentives, public expenditures and exchange rate management--to succeed. In Indonesia, growth and poverty reduction are largely complementary, because of the flexible nature of Indonesia's labor markets. This linkage between economic growth and poverty reduction has been demonstrated during the 1970s and the much more difficult 1980s.

^{10/} See, Report of the Task Force on Poverty Alleviation, World Bank, Volume I - Report and Annexes, June 1988.

2.18 The continuation of macroeconomic policies in Indonesia aimed at achieving a sustainable recovery in growth, while maintaining stability will be an important prerequisite to further reductions in poverty.^{11/} The level of investment in labor-intensive, export-oriented production, supporting infrastructure and the social sectors will have to rise. Carefully managed public expenditures will support economic growth, raise the efficiency of public investment and contribute to a reduction in poverty. In order to finance these public expenditures while improving the fiscal balance, the Government's program to increase further domestic resource mobilization will need to be maintained.

2.19 Achieving a more rapid rate of economic growth could have a dramatic effect on the incidence of absolute poverty in Indonesia. For example, assuming that the elasticity of poverty reduction with respect to economic growth remained unchanged in the 1990s from its level in the 1976-87 period, and the growth rate of the non-oil economy was sustained at 6-7% p.a. throughout the 1990s, the incidence of poverty would decline from 17% in 1987 to less than 9% by the year 2000. As a result, the number of absolute poor in Indonesia would be about 20 million in 2000. While this projection is only illustrative, it does indicate the role that sustained, broad-based economic growth could have in reducing the number of poor in Indonesia. As the poverty problem has become more concentrated in resource-poor areas and among particular groups who lack the resources to benefit from economic growth, the elasticity of poverty reduction with respect to economic growth is likely to decline in the next decade. This suggests that these will also be a need for poverty programs, which are carefully targeted at particular areas or groups to allow them to participate more fully in the process of economic growth. But, macroeconomic policies designed to achieve a faster rate of growth will be an extremely important component of the overall poverty reduction program. In this regard, sectoral policies in the manufacturing, agricultural, and service sectors continue to be needed to maintain a rapid rate of economic growth and absorb Indonesia's burgeoning labor force.

2.20 During the 1990s, the principal sources of growth will be non-oil exports, especially manufactured exports, and non-rice agricultural production, supported by increased private investment and complementary public investment in infrastructure. The manufacturing sector will continue to be an important source of economic growth and employment generation over the medium term. The most promising route for employment expansion in the manufacturing sector is to enhance profitability in export industries, since these industries are relatively labor intensive and have the best prospects for market growth. This will require that an appropriate framework be put in place to boost manufactured exports. The key elements of this framework are the maintenance of a competitive exchange rate and continued progress on trade and industrial sector reforms, in order to reduce the domestic cost of production. The effect of these policies has been demonstrated by the growth

^{11/} For a complete discussion of Indonesia's medium-term growth prospects and the policies needed to support them, see, Indonesia: Foundations for Sustained Growth, World Bank, Report No. 8455-IND, May 4, 1990, Chapter 2.

in non-oil exports and employment achieved since 1986 in the manufacturing sector, when the Government committed itself to a process of trade and industrial deregulation.

2.21 Similarly, agriculture will continue to play a critical role in providing better income opportunities to farmers, and support the development of rural off-farm employment by stimulating production in nonrice crops, smallholder tree crops and nonfood farm activities. Although the food crop subsector, especially rice, will continue to be the main source of output and employment, nonfood activities will need to provide the bulk of additional employment in agriculture over the medium term. Agriculture growth, therefore, is to be supported by policies that encourage farmers to raise their productivity and diversify their production within an efficient cropping system. This involves intensifying the Government's efforts to bring the pattern of input and output prices more closely in line with world prices, improve rural infrastructure, provide more responsive research and extension services, and reduce regulatory restrictions.

2.22 Finally, more rapid and efficient growth in agriculture and manufacturing will also spur growth in the services sector. The experience of other countries in East Asia, such as Korea and Thailand, indicates that productivity in the service sector is closely linked to progress in industry and agriculture. Higher growth is, therefore, likely to lead to improved earnings for workers currently engaged in low-wage activities, as well as generate additional productive employment opportunities in the sector. Continued reforms in transport and other services, as well as strengthening the financial sector, will be critical in this regard. Furthermore, the attitude of local governments towards service sector activities will also be important, as regulations and restrictions on informal traders and transportation is likely to inhibit growth in services. This would have an adverse effect upon the poor.

2.23 While these general macro-policies will help to maintain a high rate of economic growth which is necessary for sustained poverty reduction, the benefits of economic growth may accrue only slowly to certain groups of the poor or in certain disadvantaged areas of the country. This is illustrated by the variation in income growth in Indonesia during the 1980s (see para. 2.7 above). In many instances, the poor do not possess the physical and human assets necessary to participate in the growth process. Therefore, as recognized in REPELITA V, a poverty reduction strategy would need to be supplemented with two additional components: specific initiatives to generate income earning opportunities for the poor; and programs to endow the poor with the human capital needed to exploit these opportunities.

Targeted Income Generating Programs for the Poor

2.24 On the basis of experiences in various countries, the introduction of income-generating programs specifically designed to reach the poor are more effective if guided by several factors. First, over the long term, income generating programs should be sustainable and direct income transfers are often not sustainable. Second, targeting is necessary to ensure that the programs actually reach the poor, thereby minimizing the leakage of benefits to the nonpoor. And finally, these programs are likely to be most effective

if they are an integral part of an overall development strategy. Two types of policies could be designed: (i) providing the poor with access to physical assets in order to ensure a permanent flow of income; and, (ii) providing the poor with increased employment opportunities.

2.25 The most important physical asset, which is an overriding consideration in the incidence of poverty in both rural and urban areas, is access to land. The poor in rural areas generally do not have access to land or have holdings which are too small to generate an adequate income; moreover, limited access to land is an important factor in the migration of unskilled, low-income rural dwellers to urban areas, contributing significantly to the problems of urban poverty. Unlike many other developing countries, Indonesia does not have a skewed distribution of land. Virtually all cultivators are small by international standards. Furthermore in the Outer Islands, land is relatively plentiful, although there would need to be substantial investments in infrastructure before it could be utilized to a large extent and there are potentially severe environmental implications arising from its exploitation.^{12/}

2.26 Easing the access of small farmers to Indonesia's land resources in the Outer Islands is, therefore, an important component of a poverty reduction strategy. This could be accomplished by two steps: (i) identifying underutilized and degraded land suitable for agriculture while ensuring adequate safeguards for Indonesia's forestry resources; and (ii) establishing procedures to facilitate the transfer of this land to the landless or the near landless. In particular, simplifying land registration and titling, and making credit more readily available to those small farmers who purchase the land will be critical to this effort.

2.27 Access to land, however, does not ensure its productive use. Therefore, ongoing efforts to increase the productivity of the land and hence, raise the incomes of farmers from their existing assets will complement this strategy. The technology appropriate for the size of holdings and the type of crops cultivated by low-income farmers, the provision of irrigation from surface or groundwater schemes, and rural credit for small, low-income farmers to purchase agricultural inputs will all serve to assist farmers in making more profitable use of the land.^{13/} Access to markets and marketing information would also raise income levels from the land.

2.28 As noted above, the major factor in any strategy for generating employment opportunities in Indonesia must be the achievement of a rapid rate of economic growth. The success of an export-led growth strategy in absorbing labor and hence, reducing poverty during the adjustment period indicates that there is, currently, no need to initiate public employment programs on a large scale. However, while all sectors and areas of the country should ultimately benefit from macro policies designed to stimulate growth and employment, the

^{12/} For a discussion of land issues and the environment in the Outer Islands, see Indonesia: Forest, Land and Water: Issues in Sustainable Development, World Bank, Report No. 7822-IND, June 5, 1989.

^{13/} Programs and policies to reach the poor more effectively through agriculture are discussed in detail in Chapter III.

benefits of increased incomes and employment opportunities are likely to accrue more slowly in some sectors and regions. In particular, the remoteness and poor resource base of many areas of Indonesia may limit the extent to which certain areas benefit from economic growth in the near term. This problem will be exacerbated by the fact that many of these areas will also experience a relatively higher rate of growth of the labor force during the 1990s.

2.29 As part of the Government's overall poverty reduction strategy, specific measures will, therefore, be needed to stimulate income-generating activities and employment, particularly in poorer areas. Central Government transfers to local governments, particularly the INPRES program, have been an excellent vehicle to create employment opportunities in these depressed areas; as noted earlier in the report, these programs have created social and physical infrastructure and provided O&M funding, using local labor and materials in labor-intensive construction projects. The econometric evidence for the period 1982/83-86/87 presented in Table 2.6, however, indicates that Central Government transfers to the provinces--routine transfers (SDO), the General INPRES, and the Sectoral INPRES--could have been used more actively to offset regional disparities in income levels and that these transfers could have been reallocated more effectively towards the poorer provinces. In

Table 2.6: ELASTICITY OF CENTRAL GOVERNMENT TRANSFERS TO PROVINCES WITH RESPECT TO PER CAPITA INCOME: 1982/83, 1986/87 /a

	Elasticity /b		Significant Difference (t-statistic)/c
	1982/83	1986/87	
Routine transfers	0.33	0.33	-0.33
INPRES transfers	-0.11	-0.15	-2.81*
General INPRES	0.16	0.09	-4.09*
Sectoral INPRES	-0.50	-0.51	-0.91
Total transfers	0.19	0.17	-1.92

/a These estimates were calculated from a regression analysis using per capita transfers (from Annex Table 4) as the dependent variable and per capita household expenditures from the relevant SUSENAS surveys as the independent variable. Analysis excludes East Timor because of a lack of data.

/b All elasticities were significantly different from zero at the 99% level.

/c The t-statistic measures whether there was a significant difference between the elasticity in 1982/83 and 1986/87. An asterisk (*) indicates a significant difference at the 99% level.

Sources: Table 2.2; various SUSENAS surveys; World Bank staff calculations.

aggregate, while there is a wide variation in the level of Central Government transfers per capita by province,^{14/} the allocations of total transfers, routine transfers and the General INPRES tend to increase with provincial incomes. To some extent, this reflects the allocation criteria of the provincial, district and village INPRES programs which are based upon equal allocations, population size and the number of villages, respectively.

2.30 Concentrating and augmenting the General INPRES funding in the relatively disadvantaged areas--a process which the Government initiated in the 1990/91 Budget--would contribute to an acceleration in poverty reduction in three ways.^{15/} First, these programs will directly provide employment to unskilled and semiskilled workers at low wages in those areas where problems of poverty exist. Second, these programs will be an important factor in raising aggregate demand in poorer areas where private sector activity is relatively small and the ability of local governments to generate their own resources is extremely limited. Thus, INPRES funds will also indirectly contribute to raising employment in the selected areas. Finally and more importantly, physical and social infrastructure will be created in these areas. This infrastructure, in turn, will spur income-generating activities and lead to the human resource development of the poor.

2.31 Further refinements to the allocation criteria for the INPRES programs may be warranted given Indonesia's changed economic structure, in particular the provincial incidence of poverty. For the General INPRES program, incorporating a measure of relative income level or the incidence of poverty at the province, district and preferably, village level in the allocation criteria would more directly address regional income disparities. This could also be linked with an assessment of the potential local revenue base relative to actual receipts so as to encourage resource mobilization within provinces. An alternative approach is to create a new INPRES funding channel, based entirely upon need, to supplement the existing General INPRES program, but this could lead to a further fragmentation of budgetary channels. For the Sectoral INPRES programs, further refinements to the sector specific criteria may be needed to reflect current priorities. In some areas, the construction of additional physical and social infrastructure (such as roads, small-scale irrigation schemes, storage facilities, health centers and subcenters, and water supply and sanitation facilities) would make these facilities more accessible to the poor. The Government is already taking appropriate steps in this direction through the construction of additional health facilities in the 1990/91 Budget. Moreover, the quality of services for the poor, particularly in education and health, can be improved through the use of INPRES funding to provide the necessary quality-enhancing inputs.

2.32 Small-scale credit schemes offer a second potential, albeit more limited, avenue to reach low-income groups by stimulating productive activities and generating employment opportunities, as well as financing

^{14/} See Annex Table 5.

^{15/} Modifications to the INPRES program undertaken in the 1990/91 Budget are described in para 2.43.

improvements in water supply, sanitation and housing. These schemes can also be an effective vehicle for reaching women, as they are heavily concentrated in informal activities, such as petty trading and handicrafts. International experience with these types of programs, however, is quite mixed. The Grameen Bank in Bangladesh is generally cited as one of the most successful examples of the delivery of small-scale credit to the poor on a national scale. The World Bank and the Government of India have also developed a successful program for supporting micro-enterprise development and reaching the urban poor under the Second and Third Calcutta Urban Development Projects.^{16/} These two programs demonstrate that carefully developed small-scale credit schemes, which focus on providing access to credit, can generate substantial returns in terms of employment and income for the poor. One other feature of these programs which contributed to their success was the involvement of community groups in the prescreening of borrowers, follow-up activities and loan collection.

2.33 Currently, there are a plethora of small-scale credit schemes, administered by the Government and private cooperative groups in Indonesia (Table 2.7 shows the characteristics of some of the larger Government programs). These programs operate under a variety of terms and conditions (interest rates range from highly subsidized to market rates; and repayment periods range from only one month up to five years). Moreover, the capacity of the various Government agencies to implement credit schemes is also very diverse. As a result, the performance of these programs in terms of reaching the poor and stimulating income-generating activities is quite varied. The general rural credit program (KUPEDES) initiated in 1983 by Bank Rakyat Indonesia is probably the most successful program operating on a large scale.^{17/} Improving the performance of existing small-scale credit schemes could therefore, make a contribution to poverty reduction. Two initiatives will serve to improve the effectiveness of existing programs. First, ongoing efforts to expand the KUPEDES program in rural areas and to introduce it in urban areas, particularly in connection with the expanded Kampung Improvement Program will help to reach lower-income groups. Second, a rationalization of other Government programs would help to target better the beneficiaries, rationalize the loan conditions across the various programs, and improve the implementation capacity of the agencies involved. In some cases, this may entail the elimination of existing programs. In all cases, forging closer links between the Government agencies implementing these programs and financial institutions with experience in credit provision would lead to more effective programs. Also, increased involvement of community groups could raise further the efficiency of these schemes.^{18/} The overall emphasis of these efforts needs to be on improving the access of the poor to credit, and not on providing "subsidized" credit.

^{16/} See, Friedrich Kahnert, "The Small-Scale Enterprise Credit Program (SSEP) under the Second and Third Calcutta Urban Development Projects (CUDP II and CUDP III): An Assessment," Asia Regional Series, March 1989.

^{17/} For an evaluation of this program, see, "The Impact of Unsubsidized Rural Credit Programs on Employment Generation in Indonesia," ILO, January 1989.

^{18/} The role that community groups could play in the Government's poverty programs is discussed in detail in Chapter VI.

Table 2.7: SELECTED GOVERNMENT SMALL-SCALE CREDIT SCHEMES

Government agency	Program name	Geographic spread	Type of program	Intended beneficiaries
Ministry of Education and Culture (DIRMAS)	Economic Oriented Training Program	Selected subdistricts in 327 districts in all provinces	Seed capital through revolving fund, KUPEDES loans	Nonformal education-learning group participants
National Family Planning Board (BKKBN)	Community Incentive Program	26 provinces (excludes East Timor)	Seed capital through revolving fund	Women who are family planning acceptors
Ministry of Home Affairs (BANGDES)	Rural Credit Program	10 provinces	Village revolving fund	All village members
Ministry of Agriculture (BPLPP)	Income Generation for Marginal Farmers and the Landless	East Java, Yogyakarta, West Java, Bali, and West Nusa Tenggara	Small loans administered through banking system	Marginal farmers and agricultural laborers
Bank Rakyat Indonesia	Kredit Umnas Pedesaan (KUPEDES)	17 provinces	Bank loan program	All sectors
Bank Pembangunan Daerah (BPD); Badan Kredit Kecamatan (BKK)	Small Sector Loans	Six provinces	Bank loan program	All sectors, particularly traders, and for sanitation facilities

Source: World Bank staff.

Improving the Human Assets of the Poor

2.34 Endowing the poor with the human assets necessary to participate in the growth process is another important component of a poverty reduction strategy. Human resource development for the poor would have both an investment effect, in the form of augmenting the human capital of the poor leading to increased productivity and incomes, and a consumption effect, by improving the present welfare of the poor. This is true for the social services--health, education and nutrition-- as well as other basic services--water supply, sanitation and related infrastructure--which directly affect the living conditions of the poor and hence their health status. These areas are particularly important, as Indonesia lags somewhat behind other ASEAN countries in a number of social indicators. An effective poverty reduction strategy in human resource development would have three basic thrusts. First, it would direct public expenditures towards these sectors and also prioritize intrasectoral allocations, such as preventive versus curative health care, basic education versus higher education, and water supply and sanitation versus large urban transit systems. Second, institutional changes may be needed to ensure that delivery systems are effective in reaching the poor. Third, it would involve community groups more actively in the planning and implementation of these social programs, in order to increase participation and to reach the poor more effectively.

2.35 In the social services, past investments have focused on an expansion of facilities. This emphasis has paid off. Primary school enrollments are now about 86%, a substantial increase from 15 years earlier. The infant mortality rate has declined substantially from 132 in the late 1960s to about 70 in the mid-1980s, and the last decade has witnessed some improvements in the incidence of malnutrition. While all segments of society have benefitted from improvements in social services, the poor are still disadvantaged in terms of availability of these services. Large variations still exist between the poor and the nonpoor and between the better-off and the poorer provinces. Reducing these disparities could have a significant effect on reducing poverty.^{19/} As noted earlier, in about three-quarters of all poor households in Indonesia, the head of the household has less than a primary school education and in another 20%, has completed only primary school.

2.36 In the past, the provision of other basic services to the poor, particularly water supply and sanitation, has received relatively less attention in Indonesia. However, these programs are equally important to the health status, and hence the productivity and earning capacity, of the poor. These are especially important in urban areas, as the poor in urban areas generally suffer the worst in terms of environmental degradation and unsanitary living conditions. Improving the availability of these basic services to the poor can lead to a reduction in morbidity, which will in turn lead to increased productivity.^{20/}

^{19/} Programs and policies to reach the poor more effectively in the social sectors are discussed in Chapter IV.

^{20/} Programs and policies for the poor in basic services and infrastructure are discussed in Chapter V.

2.37 And finally, providing assistance to the poorest of the poor who suffer prolonged periods of inadequate food intake implies the need for micro-targeted programs. These programs will be mostly aimed at satisfying the immediate consumption needs of those individuals whose caloric intake is well below the poverty threshold. These individuals will be extremely difficult to reach with Government programs, especially large-scale expenditure programs. Community groups and other private sector organizations will be needed to help the Government identify and reach these individuals. One important role for Government in improving the effectiveness of these activities will be to provide logistical support to these community groups and coordinate their activities.

D. Poverty Initiatives for REPELITA V

2.38 In REPELITA V, the Government recognized the need to mount an intensified effort to reduce poverty. First, it reiterated its commitment to a process of growth and structural change with an emphasis on developing an efficient manufacturing sector, supporting the agriculture sector and providing the infrastructure necessary to support a more rapid rate of economic growth. Second, in order to more directly address the needs of the poor, the Government is undertaking a number of poverty-related programs during the REPELITA V period; some are new programs being initiated and others are existing programs which are being strengthened. These programs are being coordinated by the National Development Planning Agency (BAPPENAS) and executed by the relevant line agencies. These initiatives are:

- (a) a program to promote the even distribution of services to the poor (P3D);
- (b) a program of water provision to urban areas;
- (c) rural water supply and sanitation; and
- (d) a series of integrated area development projects (IADPs).

2.39 The program to promote the even distribution of basic services (P3D) is designed to direct Government social services, such as health, nutrition, and education, to poorer communities where service levels are significantly below national averages. The program will be implemented in about 1,000 villages initially; these villages have been identified by an interministerial steering committee which ranked all districts by five readily available correlates of "poverty".^{21/} This program will contain four components: (i) a

^{21/} The indicators used by the committee in the first report were: population density; population growth; dependency ratio; employment level; and illiteracy. These indicators were readily available from the 1980 census for all districts.

strengthening and expansion of the POSYANDU system;^{22/} (ii) a food and nutrition system; (iii) social welfare activities; and (iv) nonformal education. In the first years of the REPELITA V period, the first two components would be implemented. The POSYANDU component would ensure that each identified village had an operating POSYANDU with adequately trained staff. The food and nutrition program involves the establishment of village demonstration plots managed by the women's association in each village (PKK) with technical assistance to be provided by the Ministry of Agriculture. The produce of these village gardens would be used for educational supplemental feeding in the nutritional program administered by the village POSYANDU. The other two components would be initiated in later years. The idea for these two components would be to intensify the activities of the Ministry of Social Welfare and the nonformal education program in these villages. These programs will be coordinated by the BAPPEDAs and implemented by the relevant line agencies. It is also planned to include village-level NGOs in the implementation of the program. Extra funding will be provided through existing budget channels. An intensive program of monitoring and supervision is also being developed.

2.40 The second program is an effort to provide water to lower-income groups in water-stressed urban slum areas. The cities chosen initially for the program are Jakarta, Bandung, and Semarang. The program will provide public standpipes through funds channeled through the local water authorities. There will be an explicit grant for the capital costs of the standpipes, but cost recovery mechanisms will be instituted to recover funds for their operation and maintenance. Initially, the money will be provided judiciously in order to monitor implementation, particularly the ability of the program to circumvent the costly distribution system now prevailing at most standpipes.^{23/}

2.41 A renewed effort to provide rural water supply and sanitation (RWSS) is the third program being developed during the REPELITA V period. About 5,000 pilot villages will be selected for a renewal of the Government's RWSS program. The approach will be community-based with the formation of "water supply clubs" in each pilot village; these clubs will be responsible for operations and maintenance. Institutional arrangements will involve the Ministries of Home Affairs, Health and Public Works. Resources for this program will be channeled through the INPRES Health for water supply and sanitation; funding levels will be increased from the depressed levels of the past several years.

2.42 The fourth, a program of integrated area development projects, is also a modification of an old program, the provincial area development program (PDP). These IADPs will focus on income-generating activities, such as

^{22/} The POSYANDU is an integrated health service post, which offers five core preventive health services: family planning; nutrition; antenatal care; immunization; and diarrheal disease control. The POSYANDU system is discussed in Chapter IV.

^{23/} This system is discussed in detail in Chapter V.

agriculture, storage facilities, small-scale irrigation and roads. During the REPELITA V period, a limited number of sites will be selected; the sites are poor villages, selected on the basis of a number of regional development studies undertaken in conjunction with donors over the last several years.^{24/} This program will be coordinated with the basic services program (para. 2.39 above), but will differ from this program in its concentration on income-generating activities. The IADPs will be funded mainly by development allocations and the village INPRES, possibly through a supplemental INPRES only available to selected villages. Actual implementation will be the responsibility of the line agencies at the local level, which tends to lead to a greater local commitment to the success of these programs.

2.43 The Government took further steps to address the poverty problem in the 1990/91 Budget. There were several important poverty reduction efforts which were to be initiated or strengthened during 1990/91. First, development expenditures for health were increased by almost 50%, with a significant expansion in the number of health centers, subcenters, mobile health centers and houses for medical personnel in remote areas. Second, development expenditures for agriculture and irrigation were also increased substantially, about 20%. Third, the program to provide clean water as a basic human need will be strengthened by "building thousands of public hydrants and hundreds of water depots in 500 cities". Finally, the resources transferred under the INPRES program were raised significantly: INPRES Dati I (provincial level) was raised from Rp.12 billion to Rp.14 billion per province; INPRES Dati II (district level) was increased from Rp.1,450 per person to Rp.2,000 and the minimum assistance was raised from Rp.200 million to Rp.500 million; and, INPRES Desa was raised from Rp.1.5 million per village to Rp.2.5 million, with an increased allocation for the Family Welfare Promotion campaign (PKK). Moreover, the INPRES Dati I allocation was supplemented based on the size of the land area of the respective provinces. In aggregate, these measures make significant progress towards augmenting the existing INPRES program, as expenditures on the General INPRES are projected to grow by 50% in 1990/91. However, the effect of these increased allocations in offsetting existing regional income disparities needs to be closely monitored.

2.44 These programs constitute an important effort at poverty reduction by the Government during the REPELITA V period. These programs embody the basic tenets of the strategy for reducing poverty outlined in the previous section. They are targeted at poverty areas. The programs contain an element of income generation with the IADPs, as well as several initiatives to improve the access and the quality of social and other basic services to the poor. The design of the individual sectoral programs and the ability of these revised programs to overcome the constraints which have hindered past programs and, the development of an appropriate institutional setting for coordinating the

^{24/} Sites in Irian Jaya, North Sulawesi, South Sulawesi, West Java, Aceh, and Yogyakarta are being considered initially. In REPELITA V, it is stated that these programs will be undertaken in at least 30 sites.

Government's poverty reduction effort will be important factors in the success of these programs. The design of individual sectoral programs, their ability to reach the poor and other sectoral priorities for poverty reduction are discussed in more detail in the following Chapters: IADPs and reaching the poor through agriculture are discussed in Chapter III; social sector programs--nutrition, education and health--are discussed in Chapter IV and, other basic services--rural water supply and sanitation and urban infrastructural programs--for the poor are discussed in Chapter V. The development of an appropriate institutional setting for addressing poverty issues and incorporating this concern into ongoing Government programs is discussed in Chapter VI.

III. SUSTAINING AGRICULTURE'S ROLE IN POVERTY REDUCTION

A. Introduction

3.1 The agriculture sector has made a major contribution to Indonesia's economic development and the reduction in poverty. The performance of the sector has been impressive: agricultural value added has grown by an average of over 4% p.a., in real terms, during the last decade. A large part of this growth was due to a rapid expansion in rice production, but there was also a steady growth in cash crops, fisheries and livestock production. Agriculture has also spearheaded the progress made in reducing rural poverty. Many farm families have succeeded in substantially increasing their agricultural production and incomes, and as a result many have moved out of poverty. During the adjustment period, agriculture's role in contributing to the overall reduction in poverty was substantial; households principally employed as farm laborers and as self-employed farmers accounted for about three quarters of the decline in aggregate poverty over the period.^{1/} In addition, agriculture's rapid growth has stimulated development in other sectors of rural areas.

3.2 In particular, three aspects of agricultural development have made major contributions to the reduction of poverty in rural areas. The greatest single contribution to rural income generation and the reduction of rural poverty has resulted from the technological revolution in rice, including irrigation development. The profitability of rice production increased by about two thirds (in real terms) between 1969 and 1987, as high-yielding varieties replaced traditional varieties. After allowing for the increase in cropping intensity, annual rice farming incomes were estimated to have more than doubled, from some Rp.34,000 per ha to over Rp.82,000, in 1969 prices.^{2/} Another major contribution has come from Government programs to promote treecrop production. For example, over 200,000 farmers mostly in the Outer Islands have been assisted to plant rubber, coconuts and oil palm under various government-sponsored schemes. Depending on the level of inputs and management practices, these farmers have earned net incomes of Rp.750,000-1,200,000 per ha (1988 prices). And finally, Outer Island development was also geared to relieving poverty on Java, through agricultural development in transmigration areas.

3.3 This chapter discusses how the agriculture sector, including tree crops, livestock and fisheries, can contribute to a further reduction in rural poverty during the REPELITA V period. First, a profile of rural poverty and the sources of rural incomes are developed, in order to indicate the areas where a poverty reduction strategy in the agriculture sector should be directed (Section B). Second, the role that agriculture has played in reducing poverty is examined and a general strategy is outlined to maximize the contribution of the agricultural sector in reducing poverty (Section C).

^{1/} See, Huppi and Ravallion, 1989, op. cit.

^{2/} See Rural Income and Employment Effects of Rice Policy in Indonesia, Food Policy and Rural Income Generation Project Team, Food Research Institute, Stanford University, October 1988.

And finally, three components of this strategy for the agriculture sector are discussed in detail: reducing poverty through agricultural growth (Section D); maximizing the reach of sectoral programs (Section E); and, supporting specifically-targeted agricultural programs (Section F).

B. Profile of Rural Poverty

3.4 This section briefly focuses on some of the characteristics of rural poverty that are of particular relevance to the role of agriculture in reducing poverty. This chapter is concerned with poverty in rural areas, where most of the poor live, and more particularly with those poor households that depend upon farming or fishing as their principal livelihood. Several conclusions stand out as important to the subsequent analysis. First, in absolute terms, the poor are heavily concentrated in the rural areas and in Java. Thus about 90% of Indonesia's poor people are in rural areas, and 60% are in the rural areas of Java alone. Second, the percentage of the population in poverty is greater in the rural areas of Java (35%) than in the Outer Islands (25%) or in urban areas (8%). But on some Outer Islands, particularly in the eastern areas where the soils are generally poorer and water is scarce, the incidence of poverty has not declined in line with the decline in the nation incidence of poverty.

3.5 It is clear that poverty is heavily concentrated in agriculture. A rough calculation from the 1987 SUSENAS survey indicates that three quarters of the poor households in Indonesia derive their principal source of income from agriculture. Small farmers and agricultural laborers are, therefore, the most obvious target groups for any poverty reduction strategy, since they are not only poor but can also be reached through agriculture-based programs, either directly or, in the case of the landless, indirectly by increasing farm productivity and the demand for labor. Studies in a number of countries show that increased agricultural production and incomes can also have a very large "multiplier" effect on the rural economy as a whole.

3.6 A closer analysis of available data shows that most rural households, including the poor, typically earn their livelihood from a variety of sources, both on-farm and off-farm. In 1980, small farmers and farm laborers earned 30-35% of their incomes from nonfarm sources, including off-farm employment, earnings on capital, and transfers.^{3/} Other studies suggest that the importance of off-farm sources of incomes is increasing, especially on Java. Sample surveys of West Java households, for example, indicated that, while 87% of low-income households were engaged in agriculture in 1983, 81% also earned incomes from nonagricultural sources, mainly wage labor. These nonfarm incomes had increased by 68% since a survey carried out seven years earlier.^{4/} Another recent study of employment trends in Central and East Java reported that employment in village enterprises, such as construction, brick/tile

3/ See, Report of the IFAD Special Programming Mission to Indonesia, IFAD, Report No. 0055-ID, May 1988.

4/ See "Structural Changes in Employment and Income of Low Income Rural Households in West Java, Indonesia", Yusuf Saefudin and Faisal Kasryno, Voices from the Culture of Silence, Table 6.14.

making or food processing, has greatly increased over the past ten years, and now accounts for 6-55% of the labor force of the villages surveyed. The number of people leaving the villages on a daily or seasonal basis (to work in factories or as petty traders, laborers or servants) has also greatly increased.^{5/} The same study points out that occupational multiplicity has characterized Javanese society for a long time. While data are limited to sample survey results, it would appear that rural households, including the poor, are allocating their labor efficiently between a variety of occupations, depending on availability and the relative returns to their labor. Since the small size of most holdings limits how much labor can be productively employed on the land, farm families have turned to other occupations to supplement their incomes.

3.7 Given that the typical poor household in rural areas already derives income from a variety of sources, the determinants of income (and hence the causes of poverty) are both varied and to some extent interrelated. The most obvious single determinant of farm incomes is the amount of land the family cultivates (see Table 3.1). In determining income, it is access to land, not necessarily land ownership, that is important (the 1983 Agricultural Census found that only 4% of agricultural households cultivated no land at all compared to around 20% who owned no land). "Large" farm families have per capita incomes that are almost four times those of small farm families.^{6/} An important caveat to this is that households operating less than 0.1 ha are not the poorest households. The poorest households operate holdings between 0.1 and 0.5 ha.; this seems to be related to a higher level of income earned from nonfarm activities for the smallest farm families.^{7/}

3.8 Given the generally small size of holdings, household incomes are also particularly sensitive to the intensity and efficiency with which the land is used. Per hectare earning power is, therefore, determined by land use (crop mix), yields and prices. These variables are in turn influenced by the farmers' access to technology, infrastructure (such as irrigation), credit and markets. Since these determinants of productivity necessarily dominate any strategy for reducing rural poverty through agricultural programs, it is useful to consider their contribution in more detail.

^{5/} See "Employment Trends in Lowland Javanese Villages", William Collier *et al.*, April 1988.

^{6/} It is important to bear in mind that, while we may refer to small, medium, or large farmers, these terms are all relative, since virtually all farms in Indonesia are very small by most standards. According to 1985 SUPAS data, 23% of agricultural households in rural Java owned no land, and another 63% owned less than 1 ha; only 4% owned more than 2 ha. Even on the Outer Islands, where land holdings are much larger, 12% owned no land, 37% owned less than 1 ha, and only 23% owned more than 2 ha.

^{7/} See, Employment Trends and Policy Issues for REPELITA V, ILO, June-July 1988, p. 105.

Table 3.1: AVERAGE INCOME PER AGRICULTURAL HOUSEHOLD BY SIZE OF LANDHOLDING

Size of Holding	Average Monthly Household Income (Rp.1,000)
Under 0.1	45.90
0.1 - 0.24	39.56
0.25 - 0.49	43.45
0.50 - 0.74	50.92
0.75 - 0.99	54.24
1.00 - 1.49	63.28
1.50 - 1.99	71.36
2.00 - 2.49	79.99
2.50 - 2.99	87.35
3.00 - 3.49	95.35
3.50 - 4.49	111.61
Over 4.50	171.94

/a An agricultural household is defined as a household with at least one household member engaged in agriculture.

Source: ILO, June-July 1988, op. cit., Table 4.14, p. 105.

3.9 The agricultural census indicates the importance of the use to which land is put. The average monthly income in 1984 of households mainly dependent on foodcrop production, for example, was Rp.46,493, compared with Rp.72,000 for households with smallholder cash crops and an average of Rp.55,302 for all agricultural households.^{8/} But this obscures the large difference between producers of irrigated rice (padi sawah) and producers of other foodcrops (see Table 3.2). Net income per hectare was three times higher on irrigated rice land than for corn farms and nearly double that of nonirrigated dryland rice (padi ladang) in 1984. The combination of genetic improvements, irrigation, and Government extension services, credit and price interventions has allowed an unprecedented increase in cropping intensity, yields and earnings in the lowland, irrigated rice-producing areas of Java. In contrast, families who depend upon palawija crops and livestock generally earn much less.

^{8/} See, Prospects for Labor Absorption in Agriculture in REPELITA V, ILO, 1989.

Table 3.2: NET INCOME PER HECTARE BY FOODCROPS, 1984 /a

Foodcrops	Net Income per Ha
Padi Sawah	454,560
Padi Ladang	228,183
Padi (average)	426,650
Corn	145,219
Cassava	279,726
Sweet Potatoes	405,736
Peanuts	429,945
Soybeans	271,929

/a Data refer to average income per crop cycle in 1984.

Source: ILO, 1989, op. cit., p. 64.

3.10 There is a similar contrast between farmers who receive support under Government programs to develop estate or other cash crops and those who do not. For example, incomes from rubber cultivation, which average about Rp.400,000 a year for those farmers who have not had the opportunity to benefit from Government-sponsored treecrop programs, could be increased to between Rp.750,000 and Rp.1,200,000 a year, depending upon the level of assistance provided.^{9/}

3.11 Thus access to technology is a major determinant of farm incomes. Yet the poorest, usually the smallest, farm families who most need to make the best use of their limited land are often handicapped in gaining access to infrastructure or the support services required to adopt new cropping patterns or improved technology. Subsequent sections will describe some of these handicaps and the implications for the design of agricultural development programs.

3.12 For very small farmers, particularly those with large families, off-farm employment is an important avenue out of poverty. However, the relative returns from off-farm employment varies greatly (see Table 3.3). Many rural occupations yield returns to labor that are often less than average returns to labor on the farm, but these occupations may still be attractive when the family has surplus labor and the marginal return to labor on the farm is low.

^{9/} See, Indonesia: Strategies for Sustained Development of Tree Crops (Rubber, Coconut and Oil Palm), World Bank, Report No. 7697-IND.

Table 3.3: AVERAGE LABOR INCOME PER WORKER--VARIOUS OCCUPATIONS
(Index, National Average Income=100)

Type of Occupation	Index
Rural textile workers	48
Rural service workers	48
Rural food industry workers	69
<u>Agricultural workers</u>	<u>70</u>
Urban manual workers	141
Urban clerical workers	216
Rural professional workers	269

Source: ILO, op. cit.

3.13 Finally there are two factors that influence both farm and off-farm incomes. One is education; inadequate schooling handicaps the farmer in gaining access to market information and new technology, as well as denying the farmer access to other, off-farm sources of employment.^{10/} A second important factor is communications. Where road and other communication services have been developed most fully, particularly in the lowland areas of Java, an integrated rural market has developed, and rural families are able to take full advantage of the market for both their produce and their skills. Experience in other countries also suggests that the development of rural infrastructure can have a profound impact on household incomes and poverty.^{11/}

3.14 In conclusion, the rural poor, who depend primarily on agriculture for their livelihood, tend to share some or all of the following characteristics:

- o they cultivate very small holdings or are landless;
- o they cultivate secondary food crops or are fishermen;
- o they are located in resource-poor or remote areas;

^{10/} Issues related to education are discussed in Chapter IV.

^{11/} A recent IFPRI study of Bangladesh, for example, suggested that both farm and wage incomes increased substantially as a result of infrastructural development, and that the small farmers and landless gained proportionally more than the large farmers. See Infrastructure and Development of the Rural Economy of Bangladesh, Raisuddin Ahmed and Mahabub Hossain, International Food Policy Research Institute/Bangladesh Institute of Development Studies, February 1988.

- o they have not been included in either technical irrigation or government-sponsored treecrop development schemes;
- o they lack the education and skills to secure higher paying off-farm employment.

A particularly important target group are women. While the incidence of poverty is about the same between female-headed and male-headed households, there is evidence to suggest that the poorest households are headed by females. Part of the reason for this is that households headed by women are smaller and therefore have less labor available to work. For this reason, other households, such as those headed by older people, may also face the same problem. But it would appear that women face greater handicaps than men because they have fewer hours available to work on the farm, have lower levels of education and less experience than men in looking for employment, and may be discriminated against in the services provided to farmers. Females are also affected disproportionately by the ongoing process of farm mechanization, particularly in rice. There has been a substantial displacement of female labor due to the introduction of small rice hullers which replaced the traditional system of handpounding. In fact during the 1980s, female employment in agriculture has declined by about 3% p.a.^{12/}

C. The Role of Agriculture in Reducing Poverty

3.15 In formulating a strategy for poverty reduction within the agriculture sector, several features of the past history of agricultural development in Indonesia have important implications. First, in recent years the momentum of growth in agriculture has slowed significantly. Agriculture sector growth (excluding forestry) fell from 5.4% p.a. in the late 1970s and early 1980s to 3.7% from 1984-88. The major factor behind this sharp drop was the slowdown in the growth rate of rice production. During the years 1978-84, rice output grew by an average of over 7% p.a., but from 1985-88, average annual growth was under 3% p.a., a level which is expected to continue through the 1990s. With respect to forestry, after strong growth in the early 1970s, production actually began to fall in 1979, and it subsequently plunged in the early 1980s after the ban on log exports.^{13/} Although growth turned positive once again in 1986, by 1988 forestry production was still less than 50% of the level at its peak in 1978. Rice and forestry production are thus not likely to provide the momentum of growth in the rural economy in years ahead. By contrast, growth in certain secondary and estate crops, along with livestock and fisheries, has the potential to continue strong. As these subsectors account for only about a third of agricultural value added, however, growth in sectors outside of agriculture will be essential to ensure a buoyant rural economy.

^{12/} ILO, June-July 1988, op. cit., p. 51.

^{13/} This illustrates the magnitude of the income effects which can arise from changes in the trade regime. Recent regulations involving rattan and rubber could have similar effects with significant adverse implications for the rural poor.

Table 3.4: SECTORAL GROWTH RATE OF AGRICULTURE--1972-1988
(% p.a.)

Subsector	1972-1977	1978-1983	1984-1988
<u>Agriculture</u>	<u>3.3</u>	<u>4.2</u>	<u>3.5</u>
Farm food crops	3.2	5.6	3.0
Farm nonfood crops	4.1	5.8	4.3
Estate crops	4.5	-2.1	9.0
Livestock products	1.7	5.3	4.7
Forestry	4.4	-8.0	0.4
Fishery	3.3	5.3	5.3
(<u>Agriculture excl. Forestry</u>)	(<u>3.2</u>)	(<u>5.4</u>)	(<u>3.7</u>)
<u>Memo Item:</u>			
GDP	<u>8.6</u>	<u>5.1</u>	<u>5.1</u>

Source: Central Bureau of Statistics estimates.

3.16 A second important characteristic of past development is that employment in agriculture has expanded more slowly than production. Since 1971, employment has increased by less than 2% a year, and the proportion of the labor force employed in agriculture has fallen from 67% in 1971 to 55% in 1985. While the Outer Islands, assisted by transmigration, have continued to absorb labor, agriculture's potential to absorb additional labor in Java is now quite limited. Partial mechanization and the greater use of contract labor has actually displaced labor, especially female workers, in rice cultivation. The capacity of agriculture to absorb the expanding labor force has diminished, both because of the "push" effect of productivity gains and because of the "pull" effect of expanding off-farm employment opportunities and improved education.

3.17 A third, more troubling, feature of the past has been that certain farmers, particularly those among whom the rate of poverty is highest--such as those who depended mainly on the production of palawija crops, livestock or inland fishing for a living--have not yet had the opportunity to benefit from Government programs.^{14/} As indicated earlier, some segments of the farming community benefited greatly, particularly those with access to irrigation or government-sponsored treecrop schemes and some benefitted indirectly, through the expansion of rural incomes and employment generated by such development. A primary reason is that the focus of development strategy in agriculture was on achieving rice self-sufficiency. As a result, a large share of resources was devoted to the major rice producing areas, with less attention given to

^{14/} One reason for this could be that some of the programs, e.g., the transmigration program and area development projects, which were designed specifically to reach the poor, will take longer (and more resources) to achieve their objectives.

other commodities and areas. While greater attention has been given to diversifying production in recent years, about 71% of development expenditures for agriculture in the 1987/88 budget was allocated to irrigation and input subsidies, which mainly benefit rice. The emphasis of past research, extension and credit programs has also been heavily concentrated on rice.

3.18 The potential of the agriculture sector in reducing poverty will, therefore, be limited by three factors:

- (a) rice production is likely to grow in line with consumption but at less than half the rate experienced in the late 1970s and early 1980s when the surge in rice production took place;
- (b) agriculture's capacity to generate employment has dwindled as land has become more scarce and productivity has increased, and therefore agriculture alone cannot carry the burden of absorbing the expanding labor force, especially on Java; and,
- (c) many farms are too small to offer a family a decent living and there is simply not enough available land for agriculture to eliminate poverty in rural Java.

These limitations imply that industry and services will need to absorb an increasing share of Indonesia's growing rural labor force. Nevertheless, the agriculture sector must continue to play a major role in stimulating rural development and reducing poverty. While land is limited on Java and the resource base is poor in many other areas, there is scope for increasing production and incomes on existing land, since the majority of smallholders outside irrigation areas and Government-sponsored schemes obtain yields well below the technological potential.

3.19 A strategy to maximize agriculture's contribution to the reduction of poverty, while ensuring that it continues to contribute fully to economic growth, would contain three basic thrusts.

- (a) Reducing poverty through growth. A necessary condition for faster poverty reduction is more rapid agricultural growth. This involves both a change in the policy environment to accelerate growth and an efficient allocation of public resources.
- (b) Expanding the reach of sectoral programs. Since rapid growth alone will not ensure poverty reduction, a range of actions will be required, at the subsectoral level, to ensure that the benefits of growth and Government programs are shared more equitably and reach poor farmers. In particular, the poor need to be given better access to technology, credit and infrastructure.
- (c) Supporting specifically-targeted programs. Since sectoral programs will never reach all the poor, there will be a need for more programs that are specifically designed to reach disadvantaged groups or areas.

These three areas are discussed in detail in the following sections.

D. Reducing Poverty through Growth

3.20 Introduction. A rapidly expanding and efficient agricultural sector is a necessary condition for a further reduction in rural poverty. Agricultural growth can directly alleviate poverty by increasing the production and hence incomes of the mass of small farmers and reduce poverty indirectly by increasing the demand for agricultural labor, increasing rural incomes and producing affordable foods for domestic consumers. Therefore, the Government strategy in agriculture as set out in REPELITA V to maintain the momentum of agricultural growth is appropriate both from a poverty perspective and a growth perspective.

3.21 During the REPELITA V period, the Government projects a growth rate of agriculture of 3.6% p.a. This rate of growth could be achieved, even if foodcrop production expands at only 2.5% a year, provided that: (i) other agricultural commodities continue to expand at about the same rate they have so far recorded during the 1980s and (ii) there is a resumption of (sustainable) growth in forestry GDP. A 3.6% growth rate would also be compatible with a much slower growth in rice production and merely requires that the past progress made in diversifying production be maintained. Combined with an assumed rate of growth in agricultural employment of about 1.5% p.a., this would imply a 30% expansion in average value-added per worker during this period.

3.22 In fact, a determined pursuit of the policies outlined in REPELITA V could lead to a higher level of agricultural growth, perhaps 4% p.a. Assuming the same rate of growth in the agricultural labor force (1.5% p.a.), this would increase average value-added per worker by nearly 40% between 1986 and 2000, making a substantial contribution to raising rural incomes. The potential for accelerated production undoubtedly exists. There is an expanding local market, and Indonesia is a competitive producer of many export products, even at world market prices. On the production side, there is scope for increasing productivity of land use, on the basis of existing technologies, since average smallholder yields fall far below potential yields, especially for commodities such as cassava, sweet potato, coconuts, coffee and rubber.^{15/} There is also, in the longer term, the potential for increasing the productivity of these crops through further research.

3.23 A strategy for accelerated growth. As outlined in REPELITA V, accelerating agricultural growth in the 1990s will require three important strategic emphases. The first is to encourage further horizontal diversification of production, by fostering greater diversity at the farm level, and vertical integration of production, by encouraging agroprocessing. This is especially important, since future growth will no longer be driven by one commodity, but will need to be more broadly-based. The need to move towards a more diversified growth pattern in the future will necessitate supporting smallholder production by shifting the focus of research and extension toward a farming systems approach and by ensuring that more heretofore unassisted farmers receive extension assistance. It will also

^{15/} See Staff Appraisal Report, Agricultural Research Management Project, Report No. 7504-IND, para. 6.2.

require continued investments outside the sector, in areas such as infrastructure, communications, and education.

3.24 A second requirement for accelerated growth is a change in the policy environment facing the sector. Because of financial and implementation constraints, agricultural growth can no longer be sustained by the same policies that were used for rice in the past. Instead, the Government will have to rely primarily on the private sector, by unlocking the potential of the mass of small farmers and encouraging domestic and foreign businessmen to invest in new production and processing activities. This will require a progressive deregulation of area and production controls and the removal of market distortions to create an environment that will encourage the farming community to allocate their farm resources and adjust their farming systems on the basis of their comparative advantage and the requirements of the market. The need to support greater vertical integration may also require Government to forge more effective linkages between smallholders and private processors, so that the agricultural sector itself becomes a more responsive and efficient supplier of raw materials for the manufacturing sector. Diversification often means that smallholder production is scattered and that a potential investor may have difficulty in securing sufficient reliable supplies to justify his investment. This is an area where Government may be able intervene in a catalytic role. However, the emphasis would not be on the regulation of land use and licensing of processing capacity, but on finding innovative policies and mechanisms that can safeguard the interests of both the investor and the smallholders. The positive and negative lessons learned both within Indonesia (with the NES/PIR model) and in other countries (with other models and with contract farming) might be drawn upon in formulating an approach.

3.25 Third, a growth-oriented strategy will also call for significant improvements in the economic and financial efficiency of sector operations. Under conditions of resource stringency, improved efficiency could contribute much to growth--both directly, by making better use of available resources, and indirectly, by lowering costs of production and thereby increasing Indonesia's competitiveness in international markets.

3.26 The Government has recently taken a series of steps to improve efficiency in several key subsectors. First, the Government announced in December 1988 its intention to eliminate subsidies on pesticides.^{16/} Second, during the REPELITA V period, the Government intends to devote a substantially larger share of budgetary resources to O&M and rehabilitation expenditures in agriculture and irrigation, which will lead to efficiency gains from the substantial past investments in treecrop development, transmigration projects and irrigation. Further improvements in sector efficiency could also involve policy changes in other areas: the phasing out of subsidies on fertilizers and credit; withdrawing special support programs, as well as area and production controls, for inefficient crops such as sugarcane or soybeans on irrigated land in Java and cotton on unsuitable land in the Outer Islands; and, seeking more cost-effective ways for promoting smallholder treecrop development.

^{16/} The elimination of pesticide subsidies will also help to reduce water pollution and therefore, will also have favorable effects upon the poor who are forced to obtain their drinking water from surface sources.

3.27 Ensuring more equitable growth. In Indonesia, there need be no conflict between rapid agricultural growth and an accelerated attack on poverty; the main features of a strategy to accelerate growth are quite compatible with a strategy to reduce poverty for two reasons. First, the changes in the structure of production required to achieve a faster rate of growth will favor lower-income farmers. This is because much of the future growth in agriculture must come from nonrice crops and from nonirrigated areas, i.e., from those farmers and areas that have been relatively neglected in the past. Second, the greatest potential for growth is locked up among the least-productive and poorest smallholders, who are also the largest target group in any strategy for reducing rural poverty.

3.28 However, at the subsectoral level, trade-offs between equity and efficiency could arise and would need to be resolved. One potential area of conflict between efficiency and equity arises from the allocation of resources between consolidation and expansion, in programs such as treecrop production, transmigration and irrigation. Arguments for efficient resource use generally favor consolidation, but it is not always clear how the interests of the poor are best served. For example, in irrigation, greater expenditure on O&M is probably favorable to the poor within the project area, not only because they stand to gain most from an improvement in irrigation and other infrastructure, but also because it provides a valuable source of wage employment. But the same resources could be devoted to reaching other farmers, in different areas, that had not previously benefitted at all. In situations such as this, it is important that appropriate cost recovery mechanisms are instituted in order that beneficiaries who can pay do pay, thereby releasing resources for other priority subsectors.

3.29 A second area involves the implementation of policy reforms. The effect of policy reforms on the poor needs to be carefully monitored. For example, the present subsidies on fertilizers, pesticides, irrigation and credit have not been an efficient way to reach the poor, because most of the benefits have gone to larger farmers or irrigated rice farmers who need them least. The phasing out of these subsidies, however, could adversely affect the poor in some locations, and therefore data on the effect of policy changes need to be gathered and analyzed. If necessary, other more precisely-targeted types of assistance could be considered to protect the poor. For example, very small irrigators might be exempted from paying water user fees.

E. Expanding the Reach of Agricultural Development Programs

Introduction

3.30 Currently, many agricultural development programs, such as agricultural extension, credit or cooperative development, are focused on larger farmers, irrigated rice areas and Government-sponsored treecrop schemes. Many changes are already under way or being considered to improve and expand the reach of these programs. To achieve the Government's objective of reducing poverty and a more equitable distribution of the benefits of development, it will be important to build a more deliberate focus on poverty alleviation into the design and operation of the mainstream, existing

programs. This section reviews the scope for reaching the poor through ongoing smallholder support services (research and extension, credit, and irrigation), and existing commodity development programs (estate crops, livestock and fisheries). It concludes that there is much potential to increase the poverty effect of Government programs by building in a stronger focus on low-cost and low-risk solutions and by introducing specific measures to reach the poor.

Agricultural Support Services

3.31 Research and extension. One of the single most important functions that Government can perform in helping to overcome rural poverty is to offer small farmers the technology to expand their productivity and incomes. The tremendous success of the green revolution in rice in Java bears testament to this. A major research program was undertaken, in collaboration with IRRI, to breed and release new varieties, develop improved agronomic and pest control practices, and train local research scientists. The research effort was backed up by a sharply-focused foodcrop extension service under the aegis of the BIMAS program, which built up a strong training-and-visits system.

3.32 Despite this success, the current system of research and extension suffers from several weaknesses which constrain its effectiveness as a poverty alleviation tool. First, many farmers have not been reached. It has been estimated that only half of the farmers are reached by extension.^{17/} Second, since research and extension have been targeted primarily at monocropped (and largely genetically homogeneous) irrigated rice farms, similar attention has not been paid to palawija foodcrops, cash crops, livestock or fisheries and the diversity of farming systems followed by farmers in other areas. Third, little attention was given in research to the special needs of poor farmers, who are often unable to adopt the optimum (but higher cost and higher risk) recommendations, which are appropriate for the more progressive farmers. And finally, any extension system--and particularly the Training and Visit (T&V) system that relies on contact farmers to pass on extension advice--tends to be biased in favor of the more progressive (and wealthier) male farmers, for whom most recommendations are framed, and who being more creditworthy are able to benefit most from extension and credit programs.^{18/}

3.33 Recognizing these issues, the Government is already undertaking a number of steps to overcome these deficiencies and to broaden the reach of technology. In particular, Government is beginning to shift the focus of research and extension from a commodity-based approach to a farming systems approach. The farming systems approach involves developing the most efficient mixed cropping patterns based on the different soil, water, and other conditions in various parts of the country. But funds spent on actual research have been constrained by the overall GOI budgetary situation. Over the last decade a considerable expansion in research facilities and trained

^{17/} See, IFAD report, op. cit., p. 250.

^{18/} For a good analysis of this situation, see S.Tjondronegoro, "Social Organization and Planned Development in Rural Java: A Study of Organizational Phenomena in two Kecamatan of West and Central Java", 1984.

staff within AARD 19/ has enabled much more attention to be given to secondary foodcrops, estate and industrial crops, livestock and fisheries. Furthermore, the new emphasis on conducting farming systems research in the main agro-ecological zones is helping to make research scientists more aware of problems at the farm level. However, expenditures on actual research have fallen dramatically--by about 70% in real terms over the period 1982/83 to 1988/89. In extension, a unified service has been set up over the past six years, covering all four technical departments of the Ministry of Agriculture-- foodcrops, estate crops, livestock and fisheries. Foodcrop extension centers have been turned into multipurpose rural extensions centers (RECs) and additional centers are being constructed, with the goal of reaching 90% of all farmers. Many of these new RECs are in upland, swamp, transmigration or coastal areas that were not well served before, and are where poor farmers are concentrated. Thus, a fully integrated system for disseminating new technology to the mass of farmers is being developed with the following components: a well-staffed research system increasingly focused on the diverse needs and potential of different agro-ecological zones; a unified extension service operating out of a network of multifarious RECs to disseminate research recommendations; and, the T&V methodology, working through contact farmers.

3.34 The additional challenge is to ensure that the expanding research/extension network effectively reaches the poor. In this regard, two measures could have a significant effect in making the system more sensitive to the needs of poor farmers:

- (a) more emphasis could be given to the design and dissemination of technical packages that involve lower input costs. While such packages would not necessarily result in the highest possible yields, they would reduce risk and could be more readily adopted by the poorest households. For example, families who have no access to credit may only be able to follow recommended practices that require little or no cash outlays or hired labor; and
- (b) recommended practices for poor farmers could follow a step-by-step approach, starting with the minimum package that gives a significant return, and building up to higher levels over a period of years. An example is a program recommending a progressive buildup of fertilizer rates as a farmer gains experience and is able to accept greater risks.

3.35 Rural credit. While poor farmers can increase their incomes by adopting new crops or improved technology, they may lack access to the financial resources necessary to purchase them. The poor have little capital of their own to invest in their farm operations and are usually not creditworthy to borrow from rural credit institutions. There have been attempts in Indonesia, as in many other countries, to increase the flow of credit to the poor through a range of government interventions, including directed credit schemes and subsidized interest rates. Evidence in Indonesia

19/ Agency for Agricultural Research and Development.

as elsewhere suggests that most formal credit goes to the larger and more progressive farmers, who will also benefit the most from any subsidies injected into the system.^{20/}

3.36 In defining the appropriate role of rural credit in a poverty reductions strategy, the adoption of four basic principles will be an important first step. First, since the poor are unlikely to have access to credit on a sufficient scale, it is important that recommended practices minimize the need for credit among small farmers, by avoiding input-intensive/high-cost production systems that precipitate a need for credit. Instead, the emphasis could be on more appropriate low-cost production systems that require fewer purchased inputs, avoid risky investments, and spread investment costs over a longer period. Second, the general lessons learned from the more successful rural credit programs in Indonesia and elsewhere have demonstrated that: (i) small farmers are more interested in having access to credit and simple lending procedures than in receiving subsidized interest rates; (ii) the way to broaden access to credit is to set interest rates at a level that covers the cost of lending to the rural poor; and, (iii) collateral can be dispensed with, provided smallholders receive adequate technical assistance and supervision. Third, community-based, revolving fund programs at the village level have in some cases demonstrated success in helping poor families finance productive activities, with only modest financial support from external sources. This is an area in which community groups and cooperatives can play a greater role. Fourth, grants and indirect mechanisms may be necessary to reach the poorest of the poor. And finally, despite efforts to extend the formal credit system, the rural poor are still likely to borrow predominantly from informal sources within the village. This is because informal credit is often more attractive, in terms of easier access, lack of collateral requirements, simple procedures and greater flexibility in use. Regulations and other restrictions which impede the operation of informal credit markets need to be avoided.

3.37 Irrigation. Irrigation is perhaps the most powerful single tool for reaching poor farmers, since it is the only way in which the earning power of very small plots of land, over a large area of the country, can be dramatically increased. Irrigation affords the small farmer an opportunity to increase cropping intensity--and thereby to double or triple the effective size of his holding. Irrigation has also been the key to the green revolution in rice through the introduction of high-yielding varieties and the heavy use of chemicals. Thus the small farmer who finds himself on an irrigation scheme is indeed fortunate, compared with the majority of farmers who have to rely on seasonal and often inadequate rainfall. In the late 1970s, earnings from irrigated land were 22% higher than average incomes from all cultivated land in the smallest size category.^{21/}

^{20/} See Indonesia: Rural Credit Sector Review, World Bank, 1988, Report No. 6917-IND, pages 9-20.

^{21/} See, Hananto Sigit, "Income Distribution And Household Characteristics," Bulletin of Indonesian Economic Studies, Vol. XXI, No. 3, December 1985, p. 66.

3.38 Expenditures on surface irrigation need to be carefully programmed to maximize poverty reduction while ensuring reasonable economic returns. The best way to do this would be to concentrate on completing land and canal development of existing command areas. Currently there are about 500,000 hectares of potentially irrigable but undeveloped land within existing command areas, and the relatively small amount of investment needed to irrigate this land would have a dramatic impact on the income of farmers in these areas, who currently get little or no water delivery. An increased emphasis on better operation and maintenance (O&M) of existing schemes also would improve water delivery to the farmers at the tail-end of the systems, who often get inadequate water delivery and thus tend to be poorer than farmers closer to the headworks. Recognizing this, the Government is embarking on a program to improve O&M by increasing budgetary allocations and instituting an irrigation service fee, and by progressively devolving responsibility for O&M management onto farmers groups.

3.39 The completion of existing command areas and the improvement of O&M not only cost far less per hectare than new system development, but they also yield much higher economic returns. Most of the locations suitable for surface irrigation have already been at least partially developed, and studies indicate that returns to investments in most new schemes are likely to be less than 10%. It is therefore important that current plans to develop substantial new command areas be reviewed to ensure that investments are made only where technically and economically justified. In some cases, it might be more efficient (both in economic and poverty-reduction terms) to reallocate funding toward completion of existing command areas and toward improved O&M.

3.40 The Government should also consider reallocating some of these funds for groundwater development, which has both a greater potential for poverty reduction and yields higher economic returns than new surface schemes. It offers the same breakthrough in land use and productivity for small farmers as surface schemes, and it can be better targeted to selected groups of farmers or particular areas. Groundwater schemes also permit greater flexibility in location, more individual control over water management, and a greater range in scale, from individual wells serving less than 1 ha to large community wells covering 100 ha or more. For the rural poor, who cannot afford their own schemes, there is also the potential for water-sharing, and thus cost-sharing, arrangements. In most cases, groundwater development can be left largely to the private sector. The main functions of the Government would be to accelerate groundwater exploration and the development and testing of technology, ensure that the legal framework for groundwater exploitation, water sharing, etc. is in place, and provide the necessary support to the private sector to facilitate its involvement. However, in the interests of poverty reduction, in some areas the Government might wish to become more directly involved in groundwater development by subsidizing the capital costs of installing tubewells. As with surface schemes, however, operation and maintenance of these groundwater systems could be funded and managed largely by the farmers themselves.

Commodity Development Programs

3.41 The major thrust of the proposed poverty reduction strategy is to provide all farmers with access to the support services they need to increase their production and incomes. The essential feature of these support services is that they are functional in nature--that is that they provide a single service that in principle reaches all farmers and covers all commodities. However, experience has shown that the functional approach is not always sufficient to induce the small farmer to adopt new technology, especially when it calls for a major change in land use, a substantial investment, and an intensive injection of technical assistance. In such cases, the functional programs need to be complemented with more specific commodity-oriented interventions. This section analyzes three commodity subsectors--estate crops, livestock and fisheries--which are particularly important for poverty reduction.

3.42 Estate crops. This section deals with three tree crops (rubber, oil palm and coconuts) and three beverage crops (coffee, cocoa and tea). While the estate crops make a minor contribution to agricultural production in Indonesia compared with foodcrops, their potential for poverty reduction is considerable. First, there is a large investment already made in estate crop development and the accumulated experience of millions of growers. While data are limited, it is estimated that there are probably at least 11 million smallholders who grow at least one of the estate crops. Second, the existing level of productivity is generally very low, and substantial improvements could be obtained through the application of fairly simple, known techniques without having to wait for further research. For example, unassisted rubber smallholder yields, which average 500 kg per ha, could be raised by 50% with improved planting materials and a minimal package of technical inputs. And finally, Indonesia is generally competitive in estate crops, which are also environmentally sound for large areas of the country.

3.43 In the past, the country has invested substantial resources in developing smallholder production of estate crops. Most of the public expenditures were in organized (NES/PIR and PMU) schemes, where mainly new farmers were introduced to these crops for the first time, through block plantings combined with an integrated package of technical and financial assistance. As indicated earlier, those farmers who were able to participate in these schemes were able to increase their incomes considerably.

3.44 From a poverty point of view, however, the main disadvantage of past development programs has been that they have served only a small minority of existing estate crop producers--and an even smaller proportion of the rural families who would choose to plant these crops if assistance were available (see Table 3.5). The low coverage rate can be attributed to several factors: the priority accorded to new settlement areas, the high administrative cost of reaching dispersed smallholders, the reluctance of commercial banks to provide long-term credit to farmers in remote areas, and the limited management capacity of the projects themselves. Nevertheless, even in the absence of formal support programs, many smallholders have gone ahead on their own, with only partial help from the Government (e.g., seedlings). But there have been only meager gains in productivity over the past decade among the mass of unassisted smallholdings, which are typically planted with unselected material

and with limited technical advice. Government is now considering how to design programs so that they better address the constraints of unassisted smallholders.

Table 3.5: TREECROP HOUSEHOLDS NOT PARTICIPATING IN GOVERNMENT
TREECROP PROGRAMS, 1983
(% of total households)

Treecrop	Households <u>Not</u> Participating (%)
Rubber	92.0
Coffee	94.4
Coconut	95.8
Cloves	97.7
Pepper	92.8

Source: 1983 Agricultural Census, Series F4, as reported in Prospects for Labour Absorption in Agriculture in REPELITA V, ILO-UNDP, Report No. INS/84/006, p. 62.

3.45 Indonesia is the world's third largest producer of coffee. It is grown by some 2 million farmers, and occupies some 800,000 ha, over half of which are in Sumatra. Coffee can offer an attractive return of some Rp.6,000 a day, even at present low yields. Cocoa is one of the most recent but fastest-growing cash crops; the area under production has grown from only 36,000 ha in 1979 to 134,000 in 1987, of which 93,000 ha were under smallholder management. The crop is most heavily concentrated in South and Central Sulawesi (30%), North Sumatra (25%) and West Java (11%). Cocoa production, either as a monocrop or intercropped with coconuts, has a significant potential for poverty alleviation. Tea is important in only a few provinces; West Java being dominant with over three quarters of the planted area. Average smallholder plantings are small (less than 0.5 ha) and yields are low, but it is estimated that small tea growers can still earn the equivalent of off-farm employment from their tea gardens.^{22/}

3.46 The three major treecrops--rubber, coconut and oil palm--together occupied about 6.6 million ha in 1986, or over 70% of the area planted to estate crops. Over 80% of the area planted was in the Outer Islands. Production of rubber and coconuts is predominantly in the hand of

^{22/} The Government is planning to revitalize the West Java tea industry. However, the project is targeted at growers having at least 1 ha of tea, and is therefore likely to exclude about 75% of the smallest growers in the province. An alternative approach which addressed the needs of smaller tea farmers would be likely to reach the poor more effectively.

smallholders, but oil palm is still produced primarily on estates. It appears that these three crops provided employment equivalent to over 3 million jobs in 1986, and that this employment has grown faster than total employment on both Java and the Outer Islands. In relative terms, the crops provided about 10% of agricultural employment in Indonesia and 20% in the Outer Islands. These crops are also clearly associated with reduced poverty in the rural areas. For example, smallholder households who had rubber as a primary source of income had an average annual income of about Rp.970,000 in 1984, which was in excess of the poverty line.

3.47 In REPELITA V, the Government recognizes the potential of treecrop programs in reducing poverty and committed itself to develop smallholder investment programs that are efficient, sustainable, and replicable. From a poverty-reduction point of view, the priority is to direct more attention and resources towards the mass of unassisted smallholders who, to date, have not benefitted from past programs.

3.48 There is a need to develop, test and disseminate technical packages that are appropriate to the needs of these dispersed, unassisted smallholders. These packages would involve technologies that are relatively low-cost and low-risk for the farmers. The smallholders will also need a package of supporting services to help them adopt improved technology. As a minimum, this should include extension advice and arrangements for the provision of improved planting materials. In this regard, the relatively successful PMU-based schemes could give increased emphasis to setting up dispersed nurseries to supply good quality planting materials, together with advice on recommended practices to farmers on the periphery of existing smallholder schemes.^{23/} To address the financing problem for rubber, the Government is now considering a system of providing at least part of the inputs on a grant basis and then recovering costs through a small subsector development cess levied on exports.

3.49 Fisheries. Although it accounts for only 2% of GDP, the fisheries sector provides employment for about 2.3 million workers in fishing and aquaculture. Most of these are concentrated in the densely populated areas of Java, South Sulawesi and Sumatra. While reliable statistics are not available, fishing families probably constitute the poorest segment of Indonesian society, and therefore they warrant priority in a poverty-reduction strategy. The average income of households whose main occupation was inland fisheries was 90% of the average of all agricultural households, but income inequality among inland fishing households was very high with the Gini coefficient estimated at 0.58 ^{24/} --indicating a probable high incidence of poverty within the group. Moreover, analysis for a recent Bank-supported project indicated that about 90% of fishermen in the provinces of Aceh, Southeast Sulawesi, South Sulawesi and East Nusa Tenggara had incomes below the poverty line (in 1985).^{25/}

^{23/} For a more detailed discussion of this model to address the needs of unassisted smallholders, see Indonesia: Strategies for Sustained Development of Tree Crops (Rubber, Coconut, Oil Palm), World Bank, op. cit.

^{24/} ILO, 1989, op.cit., p. 85.

^{25/} See, Staff Appraisal Report: Indonesia-Fisheries Support Services Project, November 19, 1986.

3.50 Many earlier fisheries development programs were unsuccessful in raising the incomes of poor fishermen for several reasons. The first is the limitation in the natural resource. Most fishermen are engaged in marine fishing, and it would appear that fishing serves a function as a residual source of income to many families in the coastal areas. However, the major western coastal areas are already overfished, and therefore attempts to increase efficiency through better boats, fishing gear and extension support have been self-defeating, since they serve to increase overfishing and reduce each worker's catch. While the Government has taken some measures to protect small fishermen by instituting a trawling ban in western coastal waters, these measures have proven to be insufficient in the face of limited natural resources. A second factor has been the development of state fishing enterprises. These enterprises have tended to invest in large-scale vessels, contributing to the overfishing problem and also have had a limited employment and poverty effect.

3.51 In looking to the future, the basic focus of government programs in fisheries should be on supporting small fishermen, leaving commercial fishing enterprise to the private sector. The appropriate strategy for poverty reduction among fishermen will differ according to resource availability. In western Indonesia, where there may be severe resource constraints, the emphasis should not be on fishing programs at all, but on providing alternative income-generating activities. In eastern Indonesia, where resources are more abundant, Government programs to increase efficiency are more appropriate. Moreover, since marketing infrastructure and support services such as extension, input supply and credit are weak, there is a need for a concerted program to develop these areas (such as within the context of the Government's integrated area development projects). Aquaculture offers good prospects for both growth and poverty reduction. Recent experience suggests that aquaculture can be successfully developed among the poor, particularly with the help of village groups. This experience shows that it is possible to provide employment and income to a large number of subsistence fish farmers, and that even the poorest fishermen, not normally creditworthy, can be reached through innovative, risk-sharing credit approaches.^{26/} However, the introduction of poor coastal fisherman to aquaculture may need to be gradual, starting with low stocking rates of less risky milkfish before the adoption of more sophisticated technologies such as prawn production.

3.52 Livestock. The livestock subsector can also play an important role in reducing rural poverty, particularly in areas where crop cultivation is difficult due to a poor resource base. While foodcrops primarily meet the subsistence needs of poor farm families, animal production provides high-quality food for the household, helps to generate cash income, provides draft

^{26/} Under the ongoing Fisheries Support Services Project, funds are provided to an NGO to provide purchased inputs for aquaculture to poor fishermen in the coastal areas of Java. If the crop fails, fishermen do not have to repay anything. If the venture succeeds, the fishermen contribute 50% of their profit to a revolving fund to assist other poor fishermen. So far the experiment has been successful, with no problems of repayment.

power to supplement human effort, and produces manure for crop production. In general, livestock can best contribute to poverty reduction as part of an integrated farming system, rather than through the addition of free-standing intensive enterprises. Experience under recent Smallholder Cattle Development Projects indicates that incomes of farmers with cattle were higher than others, primarily because they had the draft power to cultivate larger areas. The livestock component would usually comprise one or two large ruminants for draft and a larger number of small ruminants, so that the total number of animals would balance the feed resources available to the farmer. Poultry production also has an important place in smallholder production systems. In fact poultry production is one of the few agricultural enterprises that can be used to reach the landless target group, since virtually no land is required.

3.53 A livestock program for poverty reduction might comprise three components: (i) a mechanism for supplying and financing livestock, for example, gadohan schemes, through which credit is repaid in terms of produce, progeny or weight gain; (ii) marketing systems, including transport and processing; and (iii) animal production support systems, especially extension, input supply and veterinary services.

F. Targeted Poverty-Reduction Programs

Introduction

3.54 Despite the scope for improving the poverty focus of existing agricultural programs, many of the poorest households will still not be reached, particularly in the most poverty-stricken areas, partly because of the very reasons that keep them in poverty, such as landlessness, lack of capital, illiteracy, or geographical isolation. The Government has therefore recognized the need to supplement ongoing subsectoral programs with special programs specifically targeted at the poor. There are two basic approaches to targeting that will be discussed below. The first is to target identified poverty areas for special attention. The second approach is to target specific poverty groups, such as marginal farmers, the landless and women. A third approach, which combines elements of the other two, is transmigration. Since this approach has been so extensively used in Indonesia it clearly warrants a separate discussion.

Area Development Programs

3.55 In Indonesia, the incidence of poverty and provincial growth rates vary significantly across different regions (see Chapter I). Therefore, the Government has been implementing pilot area development projects in several areas to promote balanced regional development and to tackle rural poverty. Under REPELITA V, Government plans to expand this effort significantly. Targeting specific areas for poverty reduction programs can be effective in Indonesia because of the sharp regional disparities in the percentage of the poor. Of course, there will be leakages from this approach, but area development projects have the potential to be much more cost effective in reaching the poor than untargeted programs.

3.56 During REPELITAS III and IV, the Government undertook the Provincial Development Program (PDP), which combined a series of integrated area development projects (IADPs), implemented with assistance from several donors, and a USAID-financed program to strengthen the BAPPEDAs at provincial and kabupaten levels. The PDP was implemented in Jakarta, in eight provinces, and 44 kabupatens (rural districts), and by the end of 1987/88 had had a direct economic impact upon more than 600,000 families. The PDP had two basic objectives: to raise the incomes of the poor in the target area and to improve the capabilities of local governments to undertake rural development. An evaluation of the economic effect of the program indicated that: (i) between 56% and 80% of the beneficiaries of the program were in the bottom half of the income distribution; (ii) the average real net income gain by beneficiaries was between 11% and 18% p.a.; and (iii) 58% of the beneficiaries were sustaining the economic activities introduced by the project.27/

3.57 The PDP has encountered a number of problems, which are similar to problems experienced with IADPs in other countries. First, the IADP approach is costly, in terms of both resources and management, and for this reason has usually been limited to projects for which external funding is available. It is therefore difficult to replicate as a general instrument for reaching a large number of poor areas. Second, IADPs can raise incomes substantially in an area because they are associated with a heavy concentration of resources, Government commitment and external assistance. However, unless the project succeeds in strengthening local capacity for planning, implementation and resource mobilization, the momentum of development is unlikely to be sustainable when the assistance ends. Finally, it appears that while IADPs can accelerate the overall pace of development in "poor" areas, they are not necessarily an effective way of reaching the poorest groups within such areas. In fact, it was found that provinces which realized the largest return from PDPs tended to do less well at actually reaching low-income groups.28/

3.58 In reformulating the PDP for the REPELITA V period, the Government has made several key changes in its approach to address these problems. The most important of these changes may be the modified institutional arrangements for implementation of the new IADPs. For example, in some cases under ongoing projects, centralized PMUs have been responsible for all aspects of the PDP programs. Under the new approach, the Ministry of Home Affairs will coordinate and supervise the efforts at the national level, and the BAPPEDAs will be in charge of planning at the provincial level. Actual implementation, however, will be the responsibility of the line agencies at the local level. This should lead to a greater local commitment to the success of these programs. This model has been followed recently in IADP projects in East Nusa Tenggara with good results.

27/ See, Jim Schiller, "Rural Development Strategy: Learning from the Provincial Development Program," National Conference on Area Development Program, September 1988, pp. 61-78.

28/ See, Jim Schiller, ibid.

3.59 In the past, the budgetary allocations for specific components of the PDP were only program agreements with the line ministries. In many cases, funds were diverted to other projects and key components of the PDP were not fully funded, leading to poor project performance. During REPELITA V, budgetary allocations will be earmarked for specific projects in support of the IADPs. This should ensure that IADPs are properly funded and all components are implemented. Furthermore, recent studies, such as that financed by UNDP to look at several eastern provinces, have been undertaken to strengthen planning for regional development.

3.60 As noted in Chapter II, an area development approach needs to be an important component of the Government's poverty reduction strategy. An area development approach would entail a program to strengthen planning and implementation capacities in local-level governments, to concentrate national development programs in poorer areas, and to augment local resources for development. It also needs to be both sustainable, in order that when the concentration of Central Government and donor resources ends, the development momentum continues, and replicable, in order that a substantial number of poor areas can benefit from the approach. The IADPs can make an important contribution to this approach by testing out and demonstrating new techniques which are then replicated--not necessarily through additional IADPs but also through regular sectoral programs--in other areas with similar characteristics. In designing IADPs, the following recommendations would serve to improve the poverty focus of these programs and enhance their overall contribution to the broader poverty reduction effort:

- (a) areas with a high concentration of poor households are the most appropriate for IADPs. From an agricultural point of view, the highest priority for IADPs is in areas that have largely untapped potential, such as the rainfed zones of Java, the highlands of Sumatra, fishing communities in eastern Indonesia and swamps. Such areas in Indonesia not only have a high incidence of poverty, but offer an obvious opportunity to readily achieve both growth and equity goals. The design of appropriate technical packages and delivery systems for these areas would have wide applicability in existing sectoral programs;
- (b) the development strategy for individual areas needs to encompass the full range of development possibilities, including industrial development and services, and not rely exclusively on agriculture. This applies particularly in areas of low agricultural potential, including many upland areas, where it may be difficult to achieve profitable farm systems on a sustainable basis;
- (c) if poverty is to be an important criterion for determining area development strategy and resource allocation, then a greater focus on poverty alleviation techniques must be built into local planning procedures and program design; and,
- (d) emphasis needs to be placed on sustainability by strengthening the capacity of the local agencies to plan and coordinate activities, with special reference to poverty-targeted programs.

Targeting Poverty Groups: The P4K Program

3.61 A regional survey of rural development in different Asian countries carried out by UNDP/FAO in the mid-1970s suggested a method of reaching poor farmers through the establishment of Small Farmer Groups (SFG).^{29/} Two initiatives were taken in Indonesia as a result of this work.

3.62 The first was a pilot project, supported by FAO/UNDP, which was designed to reach poor farmers in a few of the poorest districts of Java. The project, Income Generating Project for Small Farmers (or P4K ^{30/} for short), formed small groups of 10-15 people from among resource-poor farmers or landless laborers, utilizing strict poverty criteria for eligibility. The objective was to assist members, either as individuals or as a group, to set up income-generating activities both in agriculture and in other economic sectors. The program was carried out principally by specially trained staff attached to the Agency for Agricultural Education, Training and Extension (AAETE), assisted by revolving credit from BRI and support for nonagricultural small-scale business enterprises by field staff of the Ministry of Industry.

3.63 The initial program involved the formation of some 2,150 SFGs and trained over 240 extension staff to support them. The project was largely successful, although there were difficulties associated with the credit component, and the rate of formation of SFGs was slowed due to the intensity of training and supervision required to ensure their success. A modified version of this approach is now being replicated under an expanded program, covering 54 districts in Java, Bali and West Nusa Tenggara, involving a target of 9,250 SFGs. The program is being supported by an IFAD/UNDP project.^{31/}

3.64 The P4K has much to offer as an instrument for targeting the poor. In particular, it: (a) provides a potentially replicable means for identifying and reaching important target groups, including women; (b) provides for grassroots participation and training; (c) recognizes that the target group needs diversified income-earning opportunities, even though most of them are farmers; and (d) has had some success in extending credit (often in small amounts) to poor people who were not creditworthy for normal commercial credit.

3.65 Therefore, the P4K merits strong support and could be expanded. However, expansion of the program needs to be geared to the Government's limited capacity to form groups, to train group members, and to process and support the enterprises formed by the groups and their members. Under the original pilot project, special group organizers were trained for full-time

^{29/} FAO: "Small Farmer Development Projects in Asia", RADA, Bangkok, 1987.

^{30/} P4K is the acronym for the Indonesian title, Proyek Pembinaan Peningkatan Pendapatan Petani Kecil.

^{31/} IFAD/UNDP: "Income Generating Project for Small Farmers and Landless (P4K)", Project Document, October 1988.

operation, and were overwhelmed by the magnitude of the task, necessitating a slowing of the program. Yet under the new program, the task of setting up and supporting SFGs is only one of the duties of the field extension workers of AAETE. While extension staff will need to be enlisted to provide technical advice to SFGs, along with field staff of the Ministry of Industry and BRI, problems may be encountered if extension staff are responsible for group formation. There is a real risk that both the P4K program and agricultural extension will suffer if these two tasks are merged. The task of group formation, training and support needs full-time and well-trained specialized staff.

3.66 The second initiative was a similar, but narrower, program. This program seeks to set up subgroups of the existing extension farmer groups, specifically for the very small farmers, so that appropriate messages can be developed and disseminated to meet their particular needs. This narrower program could be more readily expanded than the more elaborate P4K program because: (a) it merely constitutes an expansion of the existing farmer groups set up under the extension service; and (b) the setting up, training, and support of agricultural extension groups is the essential core of the extension worker's job.

3.67 However, it would not be appropriate to merge these two approaches, since the functions of the group leaders under the P4K program are much broader than that of an agricultural extension worker. An appropriate strategy would be to continue to test and evaluate the use of extension subgroups, as a means of reaching resource-poor farmers. Eventually, the results of this program could be incorporated into the national T&V extension system. Furthermore, it is also desirable to expand the more ambitious P4K program as quickly as possible. However, it is suggested that the responsibility for establishing and supporting multipurpose groups be separated from the agricultural extension function, either by again providing AAETE with a separate cadre of group organizers or, possibly by giving the responsibility to another, more appropriate agency, such as BANGDES.

The Transmigration Program

3.68 The transmigration program in Indonesia has been the largest resettlement program in the world. Since 1950, over 750,000 families (or over 2.5 million people) have been resettled under various sponsored programs. In addition, the Ministry of Transmigration (MOT) estimates that another 500,000 families have moved spontaneously, as a result of the sponsored program. In all, some 1.3 million families, or about 6.5 million people, have moved from the heavily populated inner islands to the outer islands, most of them over the past fifteen years.

3.69 Although the transmigration program is generally well documented, information is incomplete and fragmented on its contribution to poverty reduction, mainly because detailed research on migrants' incomes and the economic conditions in sending and receiving areas has not been done on a systematic and comprehensive basis. The limited data available suggest that most migrants are (or feel themselves to be) better off after their move, indicating that the program probably has had a positive effect in relieving poverty on Java. This tends to be corroborated by observed improvements in

nutrition and by the fact that in 1985 50% were above the poverty level.^{32/} However, anecdotal evidence suggests that declining soil fertility at some transmigration sites may have adversely affected transmigrant welfare in the years since 1985, as has the decline in public expenditures.

3.70 Whatever its overall effect on the reduction of poverty, there is no doubt that a large number of settlers are still below the poverty line, and many live in considerable distress. In the past, the emphasis was on meeting high settlement targets at minimum cost, with less focus on the economic viability and sustainability of the agricultural systems that smallholders adopted. As a result, some sites were wrongly selected, recommended cropping patterns and agricultural practices were often not suited to the areas, and the necessary support services for extension, input supply, credit and marketing were not developed adequately.

3.71 GOI has recognized the shortcomings of previous programs, and is now planning to address poverty in existing transmigration sites by giving priority to "second stage development" (SSD) during the REPELITA V period. Emphasis will be given to increasing the income levels of existing settler families through intensified agricultural development, including estate crops and livestock, and improved infrastructure, services and interagency coordination. The SSD program, by building upon the considerable resources invested in first stage development, offers the prospects of a more efficient use of resources. It can also contribute to poverty reduction by assisting poor transmigrants to improve their productivity and incomes, and by attracting spontaneous settlers to sites that have been upgraded and receive better services.

3.72 The emphasis on SSD and spontaneous migration during the REPELITA V period raises three issues from a poverty reduction perspective. First, little has been done to acquire or develop land for spontaneous migrants or to integrate them into regional plans. Yet many poor families will continue to move voluntarily, particularly if SSD is successful. Effective, but low-cost, programs are therefore urgently needed to ensure that spontaneous migrants can be settled under minimally acceptable social and environmental conditions.^{33/}

3.73 Second, to maximize the poverty reduction potential of SSD, priority needs to be given to the poorest areas in its SSD program, provided they have the potential for development and this principle is being generally followed. However, while SSD can contribute to poverty reduction by raising the incomes of all the settlers on poor sites, it does not now have a specific poverty focus, in the sense of building in mechanisms for favoring the poorest families within such sites. Unless this is done, the benefits of SSD may

^{32/} Since transmigrants are generally selected from the poorest groups, it can be assumed that the proportion of households falling under the poverty line before transmigration was much higher than 50%.

^{33/} This warrants priority attention because of its poverty implications and the Government will address this under SSD studies during REPELITA V.

accrue largely to the more progressive farmers. Thus, there is the same need for institutionalizing a sharper focus on poverty reduction in the transmigration programs, for both sponsored and spontaneous migrants, as in other subsectoral programs discussed earlier.

3.74 Finally, there are some important issues of institutional responsibility and capacity that may need further study. The Ministry of Transmigration's experience lies primarily in resettling people and helping to establish new communities. Yet under SSD, MOT is expected to take over much broader functions, including the responsibility for interagency coordination in agriculture and the provision of infrastructure and services. Essentially, the plight of the many transmigrants who remain in poverty is merely a reflection of the general problem afflicting other small farmers, and the need for intensification of agricultural production and for better planning and coordination applies throughout the country, not just in transmigration receiving areas. Ultimately, many of the broad functions of MOT could be devolved to provincial authorities, provided their capacity and financial resources were sufficiently strengthened.

IV. HUMAN RESOURCE DEVELOPMENT FOR THE POOR:

PART I - THE SOCIAL SERVICES

A. Introduction

4.1 Improving access to and consumption of social services (education, health and nutrition) is an important policy instrument in the Government's overall strategy to alleviate poverty and improve the welfare of the Indonesian population.^{1/} Expanding coverage and quality of these basic services constitutes an investment in human capital leading to future yields in increased productivity among the poor. At the same time, these services satisfy directly a basic consumption need which is an important social policy goal in itself. This chapter assesses Indonesia's progress in social service provision and its effectiveness in targeting improved access to the poor. Section B analyses patterns of school enrollment, emphasizing Indonesia's achievement of nearly complete primary school enrollment and the need to focus policy attention on equalizing the quality of education. Section C shows the consequences for the poor of differential access to the health system and of a low level of service to the population. Finally, Section D assesses progress in nutrition status and the need to strengthen the Government's nutrition program.

B. Education

Introduction

4.2 In Indonesia, as elsewhere, education can play a key role in reducing poverty over the long term, both indirectly through improving the productivity and efficiency of the work force, in general, which will lead to faster rates of economic growth, and directly by inculcating the poor with the skills necessary to raise their productivity and hence, incomes. For the latter, primary education or its equivalency are of critical importance. As noted in Chapter II, there is a strong positive association between education, literacy and personal income. This reflects the fact that education, literacy, is both a cause and a consequence of higher income.

^{1/} Family planning programs are also an important component of human resource development for the poor. These are discussed in Indonesia: Family Planning Perspectives in the 1990s, World Bank Report No. 7760-IND, January 30, 1990.

4.3 The results of the causal relationship between education and income can best be summarized in the social rates of return to education.^{2/} Estimated social rates of return for primary and secondary education range from 10% to over 20%, with lower rates for university education.^{3/} Moreover, the rates for primary education, in particular, are an underestimate in that they exclude the (public-good) external benefits of education. The high estimated rates of return to primary education are consistent with findings from other countries both as to rates of return to different levels of schooling,^{4/} and as to the productivity enhancing effects of primary education.^{5/} There are two important implications of these findings. First, basic education, particularly primary education, merits priority attention by the Government both on equity and efficiency grounds. Second, because virtual universal coverage of primary education was not achieved until the early 1980s, there also remains an important role for non-formal education in Indonesia to provide basic literacy and low-level skill training to those Indonesians who did not have the opportunity to attain a primary school education.

Basic Education

4.4 The current allocation of public budgets in the education sector favors higher levels of education (see Table 4.1). Because levels of completed education are positively associated with household income (see Table 4.4), this pattern of public expenditures in the education sector tends to benefit the better-off.

4.5 Higher income also increases the demand for education. Expenditure data for urban households from the 1984 SUSENAS survey show a very high (3.6) average expenditure elasticity of demand for education. Together with the income-enhancing effects of education referred to above, this implies that educated parents tend to seek education for their children, or that, in the aggregate, the privileges associated with education tend to replicate themselves across generations. Therefore, an important objective of public

^{2/} The formula for social rates of return to education differs from the private rate of return in that it includes the publicly borne cost, but not the external benefits, of education. Such social rates of return are thus always equal to or lower than private rates of return.

^{3/} See Annex Table 9.

^{4/} A recent survey of social rates of return to education in numerous countries consistently found the highest rates of return at the primary level. See Psacharopoulos, Tan and Jimenez, Financing Education in Developing Countries, World Bank EDI Research Report, 1986.

^{5/} For example, a multicountry study of farmer productivity found that farmers with four years or more of primary schooling were, on average, at least 7% more productive than farmers with no primary education. See Lockheed, Jamison, and Lau, "Farmer Education and Farm Efficiency: A Survey;" in "Education and Income", World Bank Staff Working Paper No. 402; 1980.

policy and a critical component of a poverty reduction strategy is to provide broader access to the full benefits of education.

**Table 4.1: PUBLIC BUDGET ALLOCATIONS PER STUDENT FOR EDUCATION
BY CATEGORY OF EXPENDITURE, 1989/90**

Level of Education	Enrollments /a	Rupiah per Student			
		Development	Routine		
			Salaries	Other	Total
Primary	24,753,942	5,059	65,193	1,819	67,012
Lower secondary	3,655,902	38,094	82,133	14,692	96,826
Upper secondary	1,572,803	218,159	118,780	62,618	181,399
Higher	447,294	1,186,705	453,885	82,746	536,631

/a Enrollments in public institutions for latest available year (1987/88 for primary and secondary education; 1986/87 for higher education). Diploma and degree programs only.

Source: Indonesia: Basic Education Study, World Bank Report No. 7841-IND, Table 3.3.

4.6 Household income and school enrollment. The Government, in the past decade, has made a concerted effort to improve access to education, particularly primary education, for all citizens. Two key features of this effort were:

- (a) the launching in 1974 of an INPRES primary school construction program, which has channeled a total of about Rp.3.7 trillion for primary school construction; and
- (b) the elimination by 1978 of primary school fees.

This program has succeeded in providing access to primary schooling for most Indonesian children of primary school age. Net enrollment ratios as calculated from the 1987 SUSENAS indicate that about 92% of primary school children are enrolled in school (see Table 4.2).^{6/} In 1986, primary school enrollments in Indonesia were 15% higher than the average for all low and middle-income countries whereas in 1965, Indonesia was below the average for these groups.^{7/} Indonesia's expansion of primary schooling is one of the most successful cases of large-scale school expansion on record.

^{6/} See Indonesia: Basic Education Study, World Bank Report No. 7841-IND, December 22, 1989, para. 1.30-1.36.

^{7/} See, World Development Report 1989, p.220.

Table 4.2: NET ENROLLMENT RATIOS BY AGE GROUP, 1987 /a
(%)

Age group	Urban			Rural			Total		
	Poor	Nonpoor	Total	Poor	Nonpoor	Total	Poor	Nonpoor	Total
7-12	90.1	95.7	95.3	87.1	92.2	90.7	87.3	93.2	91.8
13-15	71.8	89.0	88.2	57.5	73.1	68.9	58.4	78.2	74.1
16-18	33.3	70.7	69.4	20.2	42.6	37.5	21.1	52.8	47.4

/a Net enrollment ratios are defined as enrollments in a given age group, expressed as the percentage of total population in that age group.

Source: World Bank staff estimates from the 1987 SUSENAS.

4.7 Household income, however, still has a positive effect on school enrollment at all levels of schooling and for all population subsets.^{8/} At the primary level, corresponding to ages 7 through 12, enrollment is quite complete; about 92% of the age group is enrolled in school, leaving relatively little room for household income to influence school enrollment. But within that margin, the proportion enrolled is associated with differences in household income. Enrollment ratios for primary-school-age children are consistently about five percentage points higher among nonpoor households than among poor households. The magnitude of the income effect on school enrollment is greater at higher levels of schooling.^{9/} For lower secondary schooling, corresponding to ages 13 through 15, enrollment ratios average 20 percentage points higher for children from nonpoor households than for children from poor households. For upper secondary schooling, corresponding to ages 16 through 18, the difference is even greater: enrollment ratios average 32 percentage points higher for children from nonpoor households than for children from poor households.

4.8 Further evidence of the effect of income on education is available from the reported reasons for leaving school among survey respondents of school age who formerly attended school but are no longer in school (see Table 4.3). The largest single reason reported for discontinuing school is inability to pay. The frequency of this response is high for all age groups

^{8/} Income categories in this chapter are defined in terms of actual and imputed per-capita household expenditures of surveyed households: the "poor" category comprises households in the bottom quintile; the "nonpoor" category comprises the remaining households.

^{9/} This observed income effect understates the pure income-effect insofar as it incorporates a (partially offsetting) price effect. The price of public schooling tends to rise with levels of community income both through variable secondary school fees and through BP3 parents' "contributions", which are treated by most parents as mandatory.

and income categories. Thus, inadequate family income (or the high cost of schooling) is a deterrent to school attendance generally, even in primary schooling where school fees were eliminated by 1978, in order to promote universal school enrollment. This finding corroborates reports during recent field visits that some parents withhold their children from school because they cannot afford the costs of schooling. The costs in question include not only school fees, which range from Rp.450 to Rp.1,500 per student at the lower secondary level and from Rp.900 to Rp.3,000 per student at the upper secondary level, but also parents' association (BP3) "contributions" and outlays for school uniforms, books and school supplies, transportation and school lunches. Parents' association "contributions" are levied upon students at a uniform rate for each school, depending upon the capacity of parents to contribute to their school's operation. The size of the per-student BP3 levy may be several times as large as individual fees at the secondary level; at the primary level, it is the only assessment for school operation. Both secondary school fees and BP3 "contributions" are considered as mandatory by parents and teachers. Although poor parents may request exemption from both, few (about 2% in total) do. Student uniforms are also mandatory, and cost from Rp.5,000 to Rp.10,000 each.

4.9 For the primary-school age group, the costs of schooling are a stronger deterrent to school attendance among the nonpoor than among the poor. (see Table 4.3). This does not mean that primary schooling is an inferior good, but that the price of schooling (in the form of BP3 levies) rises with household income. The cost of schooling is a stronger deterrent to school attendance in the lower-secondary age group (13-15 years) than in the primary-school age group, but the importance of this factor declines slightly for the upper-secondary age group. These data also reveal that lack of available schooling is not a strong deterrent to school attendance at any level.

Table 4.3: DISTRIBUTION OF SCHOOL-AGE POPULATION WHO LEFT SCHOOL BY AGE GROUP AND REASON FOR DISCONTINUATION, 1987
(%)

Reason for discontinuation	Primary (7-12)			Lower Secondary (13-15)			Upper Secondary (16-18)		
	Poor	Nonpoor	Total	Poor	Nonpoor	Total	Poor	Nonpoor	Total
Had sufficient schooling	3.9	4.3	4.1	6.2	7.1	6.8	7.5	6.9	7.0
Unable to pay	26.9	35.9	32.6	51.9	45.5	47.6	44.8	43.0	43.5
Not admitted	15.5	10.0	12.0	5.6	6.5	6.2	6.2	5.4	5.6
Too difficult	5.1	3.3	3.9	4.6	2.9	3.5	4.7	2.2	2.8
No school available	1.3	1.2	1.2	0.6	1.5	1.2	0.6	1.1	1.0
Other	47.3	45.3	46.1	31.1	36.6	34.8	36.3	41.4	40.1

Source: World Bank staff estimates from 1987 SUSENAS survey.

The combination of an income constraint and unavailability of schools (mainly in the past) is reflected in the higher mean level of completed education among the nonpoor (see Table 4.4).

Table 4.4: DISTRIBUTION OF POPULATION AGED 15 AND OVER BY EDUCATIONAL ATTAINMENT, 1987
(%)

Highest level of education completed	Urban			Rural			Total		
	Poor	Nonpoor	Total	Poor	Nonpoor	Total	Poor	Nonpoor	Total
Not attended school	28.8	9.3	10.0	33.0	22.1	24.6	32.7	18.0	20.6
Not completed primary school	31.4	16.5	17.1	35.7	31.2	32.2	35.5	26.4	28.0
Primary school (grades 1-6)	29.1	27.9	27.9	26.2	30.9	29.8	26.4	29.9	29.3
Lower secondary school (grades 7-9)	7.2	21.9	21.4	3.8	9.6	8.3	4.0	13.6	11.9
Upper secondary school (grades 10-12)	3.4	21.1	20.5	1.2	5.6	4.6	1.3	10.6	9.0
University or academy	0.0	3.3	3.2	0.1	0.6	0.5	0.1	1.5	1.2

Source: World Bank staff estimates from 1987 SUSENAS survey.

4.10 The central conclusion of this section is that limited household income in relation to school costs is a deterrent to school attendance at all levels of schooling, even primary schooling where there are no official fees. In relative terms, moreover, limited household income will become a more important cause of absence from school as the education infrastructure expands, particularly at the secondary level. An approach to the problem would be through official support to voluntary programs of contributions to meet the schooling costs of the poorest students. Such programs exist now in some schools, but are very limited in coverage. These programs could be extended, and complemented by school quality improvements to increase the perceived advantages of primary schools to parents of out-of-school children.

4.11 Household income and education quality. Education equity is principally an issue of education quality, particularly at the primary level. The virtually complete coverage of primary schooling leaves little room for enrollment differentials by region or by household income. There are, however, very significant differences in quality both of primary and secondary education in relation to community resources and thus in relation to household income. One indicator of education quality is primary school repetition rates which vary widely across provinces. These inter-provincial differences are closely related to income levels, as reflected in an elasticity of -0.74 of primary school repetition rates with respect to average household expenditure per capita. In other words, repetition rates are significantly higher in poorer provinces. The lack of key teaching inputs to complement teachers in

producing quality education in many Indonesian primary schools suggests that a policy of providing these missing inputs would yield very sizeable returns in terms of school effectiveness and eventual earnings of students.^{10/}

4.12 Differences in the quality of public primary and secondary education arise from differences in the capacity of individual communities to supplement Central Government budget resources for operations and maintenance (O&M) of schools. O&M needs of public primary and secondary schools are provided principally through two public sources: routine budget allocations for salaries of teachers and other school staff, and routine-budget allocations under various unit entitlement instruments for other non-salary O&M needs.^{11/} For public primary schools, salaries account for 95% of these funds. The remaining 5% is intended to meet all non-salary O&M needs, and is apportioned to schools according to a uniform entitlement formula (the SBPP) based largely on the number of students and teachers in individual schools. As the funds received by schools under the SBPP are inadequate to support quality education, more affluent communities supplement school resources through parental "contributions" (BP3) to schools. These BP3 contributions are retained by the school and are used for a broad range of educational expenditures according to priorities agreed by parents and school principals. The amount of per-student BP3 contributions is set by parents' associations for individual schools; payment of the contribution is considered mandatory, although parents who cannot afford it can (but rarely do) request an exemption from the school principal. In affluent, urban communities, schools often receive under the BP3 contribution an amount several times as large as the SBPP grant. The additional educational inputs which such privileged schools provide for themselves in this fashion yield, in general, a much higher quality of education than is possible in schools which rely only upon the SBPP grant. The quality of education in such public primary schools is comparable to the best private schools. Few communities, however, can afford to levy such lavish supplementary contributions for their schools. Most public primary schools receive little from this source.

4.13 Non-salary operations and maintenance needs for public secondary schools are provided through an entitlement formula, the DPP, which is similar in format to the primary-school formula. However, the DPP differs from the SBPP in two significant respects: (i) it is funded in the aggregate through student fees, the amount of which differs for individual schools depending on the general level of income in the community; and (ii) it is province-specific, with separate unit entitlement coefficients for each province. This feature of the entitlement formula is ostensibly designed to allow DPP financing to favor poorer provinces, but there is, in fact, little

^{10/} Research results show higher rates of return to education quality improvement than for expanded quantity. See, for example Behrman, J. and Birdsall, N., "The Quality of Schooling: Quantity Alone is Misleading," American Economic Review, December, 1983, No. 73). The Indonesia: Basic Education Study, op. cit., describes specific needs for improving basic education quality, and estimates the costs of providing these needs.

^{11/} See Indonesia: Basic Education Study, World Bank, op. cit, pp. 77-83.

variation in unit entitlement coefficients across provinces. Another important difference between public primary and secondary schools is that secondary schools have public sources of nonsalary O&M financing other than the DPP allocation. These take the form of routine budget allocations per se and some development budget allocations for what are, in fact, routine activities. By contrast, public primary schools receive only the SBPP allocation. Public primary schools are thus more vulnerable to the inadequacies of the SBPP allocations because they lack access to other public sources of financing.

4.14 Because of the enormous differences in the quality and effectiveness of public primary and secondary education depending upon the availability of supplementary financing from the community, equality of access to quality primary education has not yet been achieved. Success in meeting the Government's stated goal of improving the quality of basic education will require, above all, that additional public resources be provided to schools in poor communities. There is ample evidence that cost recovery is already doing all that it reasonably can do to assist in financing of public primary and secondary schools. Targeting the SBPP and DPP allocations to schools in the poorest communities could provide some of the necessary additional financing, but it is clear that more resources will be required. To ensure sustainability of needed quality improvements, it is important that the infusion of funds to support them be provided under a permanent budgetary mechanism. The simplest means of doing so would be to augment the unit coefficients in the existing SBPP entitlement formula for primary schools, and the corresponding formulae for secondary schools.

4.15 An agenda for REPELITA V. The Government acknowledges that the recent quantitative expansion of primary education has been accompanied by a deterioration of education quality, and has identified primary education quality improvement as one of its key education objectives for REPELITA V. This goal is also appropriate as an instrument of poverty alleviation, since the quality of education is intimately related to its effectiveness in increasing productivity and incomes. The most important need for poverty alleviation in formal education is to improve the quality of education, particularly primary education, provided to children of the poorest households. In this regard, the Government could provide more adequate financing for textbooks, teachers' manuals, chalk, and other essential inputs to the educational process itself. Because the outlays required are recurrent, financing needs to be provided through permanent budgetary instruments such as the SBPP subsidy (under the SDO regional autonomy grant) for primary school operation. Targeting of such subsidies to schools in the poorest areas could relieve some of the budgetary cost of this action, but any plans for targeting of subsidies should be carefully considered, first, so as not to risk depriving any school in need, and, second, to ensure that they would be practical and cost effective to administer. To finance these quality-enhancing inputs, there is a need for increased budgetary outlays on primary education relative to higher levels of education. This could be accomplished by restraining the growth of public expenditures on higher education facilities and increasing cost recovery in higher education through student fees, while improving the access of poorer students to the student loan program.

4.16 While improved supplies of educational materials are a necessary condition for improved quality of education, they are not a sufficient condition. Meaningful improvements in education quality imply the need for complementary actions in order to ensure that improved supplies of educational materials actually lead to improved teaching. First, there is a need to increase the supply of teachers in underserved areas. Although in aggregate the supply of primary school teachers exceeds demand, pupil-teacher ratios vary significantly from subdistrict to subdistrict, with the consequence that poorer areas are likely to have higher ratios than better-off areas. Changing the distribution of primary school teachers may require providing incentives to teachers in certain disadvantaged areas. Other important initiatives that could be considered are:

- (a) improve teacher competence by raising the level of preservice education and training for primary teachers and providing classroom-based, in-service training and regular pedagogical supervision;
- (b) improve teacher motivations by providing promotion opportunities linked to performance and qualifications;
- (c) devote more of teachers' time to actual instruction, particularly in the Indonesian language, math and science;
- (d) strengthen the instructional leadership and developmental management roles of school principals and supervisors; and
- (e) separate and strengthen the role of supervisors in providing professional support to teachers, and transfer supervisors' current monitoring roles to the MOEC Inspectorate General and to school principals themselves.

4.17 The needs of school-age children who are not in school because of inability to pay could be supported by expanding the program to provide income-earning opportunities for students from very poor households where school costs are a problem (para. 4.10), or by encouraging private voluntary efforts. The effectiveness of private contributions to defray schooling costs for poor students and thus reduce the likelihood of poor students dropping out of school is limited by the community nature of such contributions. Poor communities have the greatest needs for such contributions, but the least capacity to contribute meaningfully. Targeted support from central sources, including foreign grants, would help meet these needs.

Non-Formal Education

4.18 Introduction. As noted earlier, non-formal education also remains a priority for poverty reduction, because of the high correlation between literacy and income. Despite the rapid expansion of the formal school system, about 20% of the total population above the age of seven were illiterate

according to the 1987 SUSENAS (see Table 4.5).^{12/} Among Indonesians above the age of 29, illiteracy is even higher. Moreover, illiteracy is particularly pronounced among the poor; almost 50% of the poor above the age of 29 are illiterate. In addition to the number of illiterates, there are a growing number of school dropouts. In 1985, it was estimated that the number of annual dropouts at the primary school level were 920,000 (3.8%). Combining these drop-outs with those persons not enrolling in primary school implies that the number of illiterates is growing by about 1.5 million persons per year. The large number of Indonesians who are illiterate, and their growing numbers, therefore, constitute an important poverty challenge for the Government.

Table 4.5: ILLITERACY RATES BY AGE, 1987
(%)

Age	Urban			Rural			Total		
	Poor	Nonpoor	Total	Poor	Nonpoor	Total	Poor	Nonpoor	Total
7 - 13	13.3	7.9	8.2	20.6	14.3	16.1	20.1	12.4	14.2
14 - 29	11.1	2.3	2.6	16.6	7.5	9.5	16.3	5.6	7.4
> 29	45.3	16.8	18.0	50.0	35.8	39.1	49.7	30.1	33.8
<u>Total</u>	<u>25.4</u>	<u>9.1</u>	<u>9.8</u>	<u>31.4</u>	<u>21.2</u>	<u>23.7</u>	<u>31.1</u>	<u>17.3</u>	<u>20.0</u>

Source: World Bank staff estimates from the 1987 SUSENAS survey.

4.19 Non-formal education programs. The Government's strategy is to address the problems of illiteracy and poverty through its non-formal education programs, as a complement to the formal education system. A national program of non-formal community education (NFE) is currently executed by the Directorate of Community Education (DIKMAS) in the Ministry of Education and Culture (MEC). The NFE program is aimed at school leavers, drop-outs and illiterates, between the ages of 7 and 44, as well as those adults in need of further training to become more productive citizens. The program is targeted at women, 50% of whom have no formal education and who represent about 70% of all illiterates. The Government's growing concern for NFE during the 1980's is reflected by the increasing share of education expenditures allocated to NFE programs. The NFE budget has grown from US\$1.9 million in 1975/76 to US\$23 million in 1986/87, which represents about 5% of the total MEC budget in 1986/87 compared to only 0.5% in 1975/76.

^{12/} Data from the 1987 SUSENAS are similar in total to data derived from the 1985 SUPAS, which found that 19.1% of the population was illiterate. However, the rates for the age categories differ. The 1985 SUPAS rates are: 2.3% for ages 10-14; 8.7% for ages 15-29; and, 33.6% for ages above 29.

4.20 In general, the NFE programs are designed to provide an opportunity for acquiring basic literacy, improving productive skills, and raising awareness of community health and associated Government programs. The NFE programs are delivered through small groups which are established at the community level, with volunteer tutors or facilitators, under the supervision of subdistrict field workers. An advantage of this approach is the ability to custom-design individual programs from among a range of topics to reflect local conditions, skills and needs, and the use of peer mutual teaching techniques. There are two main program thrusts:

- (a) NFE as a basic service in human resource development. The original and still largest component of the NFE programs is the basic literacy program (Paket A), which is aimed at persons who have not completed primary school. Paket A provides not only training in literacy and numeracy, but also information on health, nutrition, family planning, and on simple skills useful in community life. This program reached about 8 million persons during REPELITA IV, of which close to two-thirds were women. A similar program (Paket B) is being developed for dropouts from junior secondary schools, in view of the government policy of providing nine years of basic education to all children.
- (b) NFE as a means of improving productivity and incomes in the informal sector. Skill training for the informal sector has been found in many countries to be more effective when linked to actual income-earning activities. As part of NFE activities to support post-literacy, the "Kejar Usaha" or Income-Generating Program (IGP) was developed, to provide technical assistance and seed capital to community-based groups as a way of increasing their skills and income. The program reached about 550,000 persons (95,000 groups) during REPELITA IV. In addition, about 25,000 unemployed youths were sponsored as trainees in private vocational courses or as apprentices in small enterprises. Most of the seed capital has been provided directly by DIKMAS on a revolving fund basis; however, a pilot program providing the funds through BRI using the KUPEDES credit program has had promising results.

4.21 The wide outreach of the DIKMAS NFE programs and their community-based approach makes them a potential vehicle for poverty alleviation. Several field evaluations indicate that at the micro-level, the programs are well-received, reach low-income and disadvantaged persons, and have had beneficial effects on participants' skills and incomes. About 20% of Paket A learners during REPELITA IV completed a stage in the program considered to represent full literacy, and of these, about half passed the primary school equivalency examination. Successful IGP groups reported average increases of 7-10% in real incomes. However, about one-quarter of the IGP groups had failed or were having difficulties in repaying the revolving funds.

4.22 While the NFE programs have been generally successful, a number of improvements can be made in their design and implementation to enhance their effectiveness. First, the programs are insufficiently targeted, both in terms of geographic areas and beneficiary groups. Although areas with large absolute numbers of illiterates were well covered during REPELITA IV (East, Central and West Java, South Sulawesi and West Nusa Tenggara), some provinces

with high incidence of illiteracy such as East Nusa Tenggara, West and South Kalimantan, East Timor and Irian Jaya received less priority. In addition, while beneficiaries have generally come from lower-income groups, they have not necessarily been among the poorest members of the community. Second, DIKMAS has insufficient experience in the financial aspects of managing the IGP revolving funds. Consequently, endeavoring to manage these aspects has distracted DIKMAS from providing the technical assistance and training needed to ensure the viability of the group enterprises supported under the IGP. Third, DIKMAS field workers are handling areas and workloads beyond their capacity, which is exacerbated by insufficient resources for travel and operating expenses. Moreover, the qualifications of current field staff, particularly in the field of IGPs, are uneven. This is having an adverse effect on program performance, especially as regards the appraisal and technical follow-up of IGP activities. Finally, cooperation between DIKMAS and other sectoral agencies, local governments and NGOs needs strengthening so that DIKMAS can catalyze technical assistance inputs as part of its role as community development facilitator.

4.23 An agenda for REPELITA V. Given the close relationship between poverty and low educational attainment and the large percentage of the poor who are illiterate or who have not completed primary school, nonformal education programs constitute a second priority area in education for poverty reduction. Several areas could be given more attention during REPELITA V. First, while Government expenditures on NFE have increased significantly during REPELITAS III and IV, financing of NFE programs is still low, especially in light of the qualitative improvements which are needed. Second, if NFE is to constitute an important component of the Government's poverty reduction strategy, NFE programs need to be targeted to the areas where illiteracy and poverty are highest, and reach the poor within those areas strengthening DIKMAS capacity for supervision, monitoring and evaluation will be crucial to improved targeting. Third, the basic literacy program (Paket A) could be strengthened and complemented by the new program for junior secondary dropouts (Paket B). Fourth, in order to improve the financial management of its IGP support, DIKMAS is exploring ways for banks or other financial institutions to handle the funds for all of its IGPs, including an expansion of the arrangements already piloted with BRI. And finally, there appears to be scope to improve many operational aspects of ongoing NFE programs: increasing the number of field staff and rationalizing their workloads and areas of operation; strengthening the capacity for effective technical assistance for IGPs; and developing a greater role for local authorities and specialist staff from sectoral agencies in program delivery.

C. Health

Introduction

4.24 Interventions to improve health are an important policy instrument in the Government's overall strategy to alleviate poverty and improve the welfare of the Indonesian population. Three main factors justify this policy concern with the health sector. First, relief from the burden of illness satisfies directly a basic consumption need which is an important social policy goal in

itself. Second, improvements in health constitute an investment in human capital formation leading to future yields in increased productivity among the poor: better health promotes learning, reduces absenteeism and increases energy output. And third, reductions in infant and child mortality also contribute indirectly to reducing poverty by helping to lower high fertility rates: lower mortality not only helps parents to achieve their desired family size with fewer births, it leads them to want smaller families as well.

Performance Indicators

4.25 Mortality. Indonesia's record of mortality reduction over the last two decades has been solid and impressive. A key indicator is infant mortality which accounts for around 30% of total deaths. Periodic census and interceded survey data show that the infant mortality rate has been roughly halved from around 132 per 1,000 live births in the mid-1960s to a level of about 71 in the 1980s (see Table 4.6). This reflects an accelerating pace of mortality decline, increasing from an annual average of 1.2% between the 1971 and 1980 censuses to 9.1% between the 1980 census and the SUPAS 1985 intercensal survey. However, Indonesia's performance still lags behind the levels achieved in neighboring countries. Infant mortality averages only around 45 in the East and Southeast Asia region as a whole. Corresponding rates in the individual ASEAN countries are also much lower than in Indonesia: 45 in the Philippines, 39 in Thailand, 24 in Malaysia, and 9 in Singapore.

Table 4.6: INFANT MORTALITY RATES, 1971-85
(per 1,000 live births)

Census/ Survey date	Reference date	Urban	Rural	Total
1971 Census	1968/69	104	137	132
1976 SUPAS	1972/73	95	113	110
1980 Census	1977/78	88	112	112
1985 SUPAS	1982/83	57	74	71

Source: Central Bureau of Statistics (1987), Proyeksi Penduduk Indonesia, 1985-2005, Jakarta.

4.26 The poor have benefited less than the better-off from Indonesia's progress in mortality reduction. This disadvantage is reflected in the regional variations in infant mortality levels within Indonesia, ranging from a low of 29 in Yogyakarta to a high of 146 in West Nusa Tenggara. These variations are closely associated with regional differences in per capita expenditure and the incidence of poverty. There is a strong negative association between the provincial infant mortality rate and household expenditure per capita, with an estimated elasticity of -0.74. In other words, a 10% increase in provincial expenditure per capita is associated with a 7% lower infant mortality rate. This pattern is confirmed directly by

household survey data showing large mortality differentials by income class as proxied by levels of education. Estimates from the 1987 National Indonesia Contraceptive Prevalence Survey (NICPS) for the ten-year period 1977-87 indicate that infant mortality rates averaged around 90 per 1,000 for mothers with none or only some primary schooling, compared to only around 30 per 1,000 for those with secondary or more schooling (see Table 4.7). Similar differentials stratified by education of the head of household are shown by the 1986 Household Health Survey (HHS).

Table 4.7: INFANT MORTALITY RATES BY LEVEL OF EDUCATION

Level of Education <u>/a</u>	HHS 1986	NICPS 1987 <u>/b</u>
None	87.5	98.8
Some primary	81.9	82.5
Primary completed	53.5	60.1
Secondary or more	45.6	33.9
<u>Total</u>	<u>71.8</u>	<u>75.2</u>

/a Level of education refers to the head of household in HHS 1986 and to the mother in NICPS 1987.

/b Average mortality rates computed for the period 1977-87.

Source: Budiarmo, L.R. et. al. (1986) Survai Kesehatan Rumah Tangga, Ministry of Health; and Central Bureau of Statistics (1987) Indonesia: National Contraceptive Prevalence Survey.

4.27 Closing the large infant mortality gap between the poor and the nonpoor will require intensified action against the main causes of high infant mortality among the poor. Four major groups of diseases accounted for more than three-quarters of all infant deaths reported in the 1986 Household Health Survey (see Table 4.8). The highest proportion, 28%, was caused by the group of immunizable diseases, the most important of which was tetanus which alone caused 19% of infant mortality. The second largest proportion of infant deaths was contributed by perinatal causes, most often due to obstructed labor and un-hygienic delivery, often exacerbated by low birth-weight or prematurity. Diarrhea is the third largest cause, contributing 16% of infant deaths, followed by acute respiratory infections (ARI) which caused 14% of the total.

Table 4.8: UNDERLYING CAUSES OF INFANT MORTALITY, 1986
(% of deaths)

	Neonatal	Post-neonatal	All Infants
<u>Immunizable Diseases</u>	<u>40.9</u>	<u>19.9</u>	<u>28.0</u>
Tetanus	39.5	6.6	19.4
Measles, diphtheria & pertussis	1.4	13.3	8.6
Perinatal causes	42.3	2.9	18.4
Diarrhea	2.3	24.3	15.6
Acute respiratory infection	2.3	21.7	14.4
Other	12.2	31.2	23.6
<u>Total</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Source: Government of Indonesia - UNICEF (1989) Situation Analysis of Children and Women in Indonesia, Tables 3.6 and 3.7.

4.28 Morbidity. In contrast to mortality, data on morbidity rates do not show sharp differences between the poor and the nonpoor, but this reflects the fact that the poor are less likely to perceive and report illness. The poor report a lower incidence of sickness than the nonpoor (see Table 4.9). The poor also report a lower severity of illness as measured by the duration of illness. However, the severity of illness appears to be higher among the urban poor than the rural poor. Combining these two measures shows that overall the poor averaged only 4.3 days of illness per year in comparison to 5.1 for the nonpoor. However, in urban areas, the poor do report a higher morbidity burden than the nonpoor.

Table 4.9: REPORTED ILLNESS BY EXPENDITURE CLASS /a

	Urban			Rural			Total		
	Poor	Nonpoor	Total	Poor	Nonpoor	Total	Poor	Nonpoor	Total
Percent ill	10.5	11.4	11.4	11.8	14.8	14.0	11.7	13.7	13.3
<u>Duration (days)</u>									
Per illness	12.9	9.4	9.6	8.9	9.2	9.2	9.1	9.2	9.2
Per person per year	5.4	4.3	4.4	4.2	5.4	5.1	4.3	5.1	4.9

/a Based on three-month recall.

Source: World Bank staff estimates from 1987 SUSENAS survey.

Access and Consumption Indicators

4.29 Preventive health services. A key indicator of access to preventive health services aimed at lowering the infant mortality rate is immunization coverage among children. The poor report a higher rate of never having been immunized than the nonpoor (see Table 4.10). However, this proportion is much lower among the urban poor than the rural poor. Turning to specific immunization indicators, BCG immunization for tuberculosis is a useful indicator of initial contact with the general immunization program, while measles is the most useful indicator of fully immunized status because it is administered later in life (after 9 months) and is aimed at the most important cause of infant death susceptible to childhood immunization. Estimates for BCG show lower access by the poor; the urban poor have much better access than their rural counterparts. A similar pattern is shown by measles immunization. It should be noted however that there is a large discrepancy between these self-reported coverage data and official estimates which report overall coverage rates of 76% for BCG and 57% for measles (for children aged 0-1), compared to 42% and 8% respectively reported in the 1987 SUSENAS survey (for children aged 0-4).

Table 4.10: IMMUNIZATION COVERAGE BY EXPENDITURE CLASS
(% of children aged 0-4)

	<u>Urban</u>			<u>Rural</u>			<u>Total</u>		
	Poor	Nonpoor	Total	Poor	Nonpoor	Total	Poor	Nonpoor	Total
Never immunized	39.8	26.2	26.7	57.9	50.7	52.6	57.2	43.8	46.7
BCG	49.1	65.7	65.1	30.9	37.5	31.6	31.6	45.4	42.4
DPT	51.0	64.8	64.3	30.9	37.2	35.5	31.8	44.9	42.1
Measles	6.4	18.9	18.4	2.7	5.0	4.4	2.9	8.9	7.6
Polio	46.9	64.2	63.5	25.4	33.6	31.4	26.3	42.2	38.7

Source: World Bank staff estimates from the 1987 SUSENAS survey.

4.30 Curative health services. The level and pattern of use of curative health services indicates the extent to which morbidity is alleviated by curative health interventions. The 1987 SUSENAS survey shows that the sick poor use fewer modern curative health services and choose lower quality providers than the nonpoor (see Table 4.11). A higher proportion of the poor reporting illness did not receive any treatment. Furthermore, a higher proportion of the sick poor resorted to self-treatment only. Of those reporting illness, fewer of the ill poor used modern health care providers. Among modern providers, government health centers turn out to be by far the most important choice for all persons reporting illness, with only a slight decline in frequency of use between the poor and the nonpoor. However, for high-quality modern providers (doctors and hospitals) there is a strong pattern of higher use among the better-off: fewer of the ill poor visited a hospital, compared to the ill nonpoor; and, fewer of the ill poor visited a

doctor, compared to the nonpoor. Better access to high-quality providers in urban areas is reflected in higher proportions of the poor visiting doctors and hospitals than in rural areas.

Table 4.11: PROVIDER CHOICE BY EXPENDITURE CLASS
(% of those reporting ill /a)

	Urban			Rural			Total		
	Poor	Nonpoor	Total	Poor	Nonpoor	Total	Poor	Nonpoor	Total
Not treated	4.8	2.1	2.4	7.3	3.9	5.0	7.1	3.4	4.4
Self-treated	37.7	22.4	23.8	31.8	26.8	28.5	32.2	25.6	27.4
Traditional	2.4	1.5	1.5	5.4	4.7	5.0	5.2	3.8	4.2
Modern	55.0	73.9	65.0	55.5	64.5	61.5	55.4	67.1	64.0
Doctor	7.7	26.8	25.1	2.6	8.8	6.8	3.0	13.9	10.9
Hospital	7.9	11.9	11.6	2.6	4.8	4.1	3.0	6.8	5.8
Health center	27.2	25.4	25.6	30.9	30.3	30.5	30.6	28.9	29.4
Clinic	1.9	2.8	2.7	3.4	2.9	3.0	3.3	2.9	3.0
Paramedic	10.3	7.0	7.3	16.0	17.7	17.1	15.5	14.6	14.9

/a Based on three-month recall.

Source: World Bank staff estimates from 1987 SUSENAS survey.

4.31 The combination of low reported morbidity and low use of modern health providers results in low absolute rates of health service utilization by the poor (see Table 4.12). Outpatient visits per person per year among the poor were significantly lower than among the nonpoor. Most of this difference is due to the much higher utilization rates of high-quality providers (doctors and hospitals) among the better-off, with little difference in levels for the lower-quality sources of care. The differential in hospital admission rates is much wider, averaging three times as many for the nonpoor compared to the poor. On average, these rates are somewhat lower than were reported by the 1986 Household Health Survey but the pattern of differentials by income class as proxied by levels of education are broadly consistent.^{13/}

4.32 Even more striking than the relatively low utilization rates among the poor in Indonesia, especially for hospital admissions, is the fact that overall these rates are extremely low, even for the nonpoor, compared to levels prevailing in other countries. Household survey data derived from the World Bank's Living Standards Measurement Study (LSMS) program show average hospital admission rates between 5 and 10 times higher than the Indonesia average of 13.6 per 1,000 per year (see Table 4.13). Even in the poorest

^{13/} See Annex Table 10.

consumption quintile hospital admission rates in these four countries are 3 to 6 times higher than the average for Indonesia as a whole. Thus the poor in Indonesia face differential access to a health system which itself delivers relatively few services even to the nonpoor.

Table 4.12: UTILIZATION OF MODERN PROVIDERS BY EXPENDITURE CLASS
(Rates per year /a)

	Urban			Rural			Total		
	Poor	Nonpoor	Total	Poor	Nonpoor	Total	Poor	Nonpoor	Total
Hospital admissions /b	6.55	22.44	21.72	4.90	12.72	10.72	5.00	15.79	13.63
Outpatient visits /c	0.23	0.31	0.31	0.24	0.35	0.33	0.24	0.34	0.32
Total visits /c	0.24	0.33	0.33	0.26	0.38	0.35	0.25	0.36	0.34
Doctor	0.03	0.12	0.11	0.01	0.05	0.04	0.01	0.07	0.06
Hospital	0.03	0.05	0.05	0.01	0.03	0.02	0.01	0.04	0.03
Health center	0.12	0.12	0.12	0.14	0.18	0.17	0.14	0.16	0.16
Clinic	0.00	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02
Paramedic	0.05	0.03	0.03	0.07	0.10	0.10	0.07	0.08	0.08

/a Annualized rates based on three-month recall.

/b Per 1,000 persons.

/c Per person.

Source: World Bank staff estimates from the 1987 SUSENAS survey.

Table 4.13: COMPARATIVE HOSPITAL ADMISSION RATES BY CONSUMPTION QUINTILE: RESULTS FROM LSMS SURVEYS
(per 1,000)

	Consumption Quintiles					Total
	I	II	III	IV	V	
Cote d'Ivoire	45.4	60.5	55.3	60.4	111.8	66.6
Ghana	87.0	126.4	156.6	143.3	214.1	145.4
Jamaica	68.8	85.9	85.6	17.0	94.6	70.3
Peru	40.3	55.1	95.2	87.6	90.1	73.6

Source: World Bank staff estimates.

4.33 Distance. Travel time is an important determinant of levels of utilization and patterns of provider choice. The opportunity cost of time is a bigger access barrier for the poor than the nonpoor. Unfortunately the SUSENAS 1987 only reports travel time as reflected in distance travelled by actual users, instead of for all respondents; as a result, it does not reflect differentials in access for the population as a whole. However, the results do suggest that the poor face higher access costs, and that they are sensitive to these costs (see Table 4.14). For example, the average distance travelled to a health center is higher for the poor than the nonpoor. Distances travelled to hospital treatment are much higher, and those poor who decide to use them are willing to travel less far than the nonpoor.

Table 4.14: DISTANCE TO MODERN TREATMENT BY EXPENDITURE CLASS
(Average distance per user in km /a)

	<u>Urban</u>			<u>Rural</u>			<u>Total</u>		
	Poor	Nonpoor	Total	Poor	Nonpoor	Total	Poor	Nonpoor	Total
Doctor	3.5	3.1	3.1	10.2	9.9	9.9	9.0	6.3	6.4
Hospital	1.8	5.6	5.5	10.9	15.2	14.6	9.5	10.6	10.5
Health center	2.4	1.4	1.4	3.4	3.4	3.4	3.4	3.0	3.0
Polyclinic	0.4	2.0	2.0	2.8	2.9	2.9	2.8	2.7	2.7
Paramedic	2.5	1.8	1.8	3.2	3.0	3.1	3.2	2.9	2.9
All providers	2.4	2.7	2.7	4.9	4.9	4.7	3.9	4.3	4.2

/a Based on three-month recall.

Source: World Bank staff estimates from the 1987 SUSENAS survey.

Targeting Health Programs to the Poor

4.34 Hospital services. The availability of hospital beds in Indonesia averages only around 0.6 per 1,000 population. This ranks Indonesia among the lowest of all developing countries regardless of income level. It amounts to only about one-quarter the ASEAN average and less than three-quarters the average provision in poorer low-income countries. This low level of bed capacity is unequally distributed, ranging from a low of 0.18 beds per 1,000 persons in Lampung to 1.24 in Jakarta (see Table 4.15). The inter-provincial distribution of bed capacity is positively associated with per capita income levels, as reflected in a high elasticity of +0.88 with respect to household expenditure per capita. In other words, a 10% increase in income is associated with a 10% increase in the availability of general hospital beds in a province.

4.35 Poorer people not only have less access to hospital facilities but face a lower quality of service as well. The ratio of doctors per hospital bed tends to be lower in poorer provinces, with an elasticity of +1.07 with

respect to household expenditure per capita. This reflects a manpower allocation problem within the hospital system. In general the higher level Class A and Class B hospitals are overstaffed with doctors, while the lower level Class C and D hospitals which serve most of the population, and in particular the poor, are understaffed. This implies a priority need to improve the quality of available services in lower level Class C and D hospitals serving poorer rural beneficiaries. This will require substantial increases in O&M funding to strengthen the provision of hospital manpower (particularly specialists and technicians for supporting diagnostic services), drugs and laboratory reagents, equipment maintenance and transport for patient referrals. Estimates based on 1985/86 figures suggest that adequate O&M funding for all general hospitals would require an increase from Rp.141 billion to Rp.359 billion.^{14/} Most of this increment would be required to raise O&M expenditures in Class C and D hospitals from around Rp.67 billion to Rp.211 billion.

4.36 Health centers and subcenters. The community health infrastructure plays a critical role in delivering curative outpatient and preventive health services to poor people living in Indonesia. The health center network services more than half of the modern provider visits made by the poor. REPELITA IV planning targets specified ratios of 1 health center per 30,000 people and 3 to 4 satellite subcenters per health center, depending on the region. There has been substantial progress in expanding this infrastructure over the past decade. Nevertheless, the provision of peripheral capacity remains low compared to other developing countries. For example, in 1981 China had an average of 63 health centers per million people or roughly double Indonesia's average of 32 per million. In Thailand, the availability of health centers is nearly five times higher at around 141 per million. The significance of these availability ratios lies in their implications for average distance to and consequently for utilization of the facility. As noted above, the majority of users are drawn from within a narrow radius of health centers. Recognizing the need to expand the physical accessibility of peripheral facilities to raise utilization rates, the Government has constructed through the INPRES program a large number of small health subcenters designed to be staffed with a nurse and one or two auxiliaries. However, to improve their effectiveness in reaching the poor these facilities need to be provided with adequate staffing and other O&M inputs.

4.37 The effective coverage of community health facilities depends primarily on the service area to be covered. Measuring access in terms of distance (radius of the service area) shows enormous interprovincial variations in accessibility to health centers, ranging from 0.8 km in Jakarta to 32.6 km in Irian Jaya (see Table 4.15). These differentials in access are closely associated with income differences between provinces, as reflected in an elasticity of -1.15 with respect to household expenditure per capita. In other words, a 10% increase in income is associated with a 12% decrease in average distance to a health center. These variations in access to physical

^{14/} For details see Indonesia: Issues in Health Planning and Budgeting, World Bank Report No. 7291-IND, February 28, 1989.

facilities are exacerbated by quality differences reflected in the availability of staffing inputs. The ratio of doctors per health center varies from only 0.35 in Irian Jaya to 1.78 in Jakarta. These quality differences are also related to income levels, as reflected in an elasticity of +0.56 for doctors per health center.

Table 4.15: PROVINCIAL DISTRIBUTION OF HEALTH RESOURCES, 1987

	<u>Hospitals /a</u>		<u>Health centers</u>		Subcenter distance (km)	POSYANDU distance (km)	Household expenditure per capita
	Beds per 1,000	Doctors per bed	Distance (km)	Doctors per center			
DI Aceh	0.46	0.077	11.27	1.04	6.27	3.9	23,024
North Sumatra	1.08	0.117	8.75	1.04	4.79	2.0	23,250
West Sumatra	0.61	0.089	10.21	1.03	5.71	2.0	25,459
Riau	0.50	0.079	17.09	1.03	8.82	4.8	24,919
Jambi	0.39	0.067	13.28	0.96	7.11	4.0	23,023
South Sumatra	0.62	0.105	13.54	1.02	8.45	3.3	24,041
Bengkulu	0.31	0.131	9.41	1.03	5.48	2.8	21,758
Lampung	0.18	0.151	8.89	0.99	5.95	1.5	19,472
DKI Jakarta	1.24	0.281	0.82	1.78	n.a.	0.2	48,932
West Java	0.26	0.161	4.66	1.00	3.95	0.8	22,960
Central Java	0.43	0.148	4.00	0.98	3.08	0.6	18,016
DI Yogyakarta	0.81	0.190	3.18	1.02	1.95	0.5	22,245
East Java	0.43	0.117	4.31	0.89	3.54	0.7	20,099
Bali	0.70	0.127	4.54	1.26	2.34	0.7	22,056
West Nusa Tenggara	0.22	0.083	8.40	1.10	4.67	1.6	16,375
East Nusa Tenggara	0.47	0.031	10.95	0.50	5.98	2.9	15,998
East Timor	0.70	0.055	8.60	0.69	6.71	2.8	15,039
West Kalimantan	0.45	0.049	17.70	0.79	9.61	6.6	19,770
Central Kalimantan	0.41	0.058	22.37	0.77	10.66	7.3	21,084
South Kalimantan	0.53	0.072	8.68	0.53	5.56	3.1	24,158
East Kalimantan	0.96	0.075	24.20	0.74	15.36	7.7	30,666
North Sulawesi	0.97	0.105	7.16	1.03	3.48	1.6	23,135
Central Sulawesi	0.54	0.050	17.43	1.01	7.15	4.7	19,601
South Sulawesi	0.50	0.110	9.66	0.83	5.41	2.0	17,265
Southeast Sulawesi	0.60	0.063	11.47	0.85	6.24	2.8	14,901
Maluku	0.82	0.040	15.32	0.67	9.25	5.0	20,206
Irian Jaya	0.96	0.044	32.64	0.35	20.23	13.6	21,117

Memo Item:

Elasticity with respect to household expenditure per capita	+0.87 (2.39)	+1.07 (2.78)	-1.15 (1.95)	+0.56 (2.31)	+0.47 (0.77)	-1.05 (1.32)
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/a Data for 1985.

/b OLS estimates of double-log equations; t-statistics in parentheses.

Sources: Ministry of Health and World Bank staff estimates.

4.38 POSYANDU. An important new development in REPELITA IV was the creation of integrated service posts (or POSYANDU) at village level. These are intended to provide five core preventive health interventions on a monthly outreach basis: nutrition weighing and education program, immunization, family planning, diarrheal disease control through ORT, and maternal care. As such they represent a potentially powerful instrument for reaching the poor who otherwise would remain beyond the effective reach of fixed facilities. Planning targets call for the establishment of one POSYANDU per 100 children under five, implying a total requirement of around 200,000 to reach full coverage. By June 1988 there was a reported number of 133,984 POSYANDU within the catchment area served by the 63% of all health centers which provided a report. One problem, as with health centers, is that there is less access to POSYANDU in poorer provinces, as reflected in higher average distances (see Table 4.15).

4.39 Despite the significant expansion in coverage with POSYANDU, its effectiveness could be strengthened. First, a large number of reported POSYANDU are not fully operational because they provide fewer than five of the planned services; for reporting purposes any post offering at least two of the five services is counted as a POSYANDU. This partly reflects the difficulty of providing adequate logistical support in the form of skilled manpower and materials from the community health infrastructure. Second, actual compliance of the target population with POSYANDU is often low: regular attendance has been found to be as low as 20%. Thus effective coverage of the POSYANDU system is substantially lower than nominal reported coverage. And third, even with full coverage and compliance, the effectiveness of the POSYANDU would remain limited by problems such as, the absence of referral for nutritional supplementation (see para. 4.52); and, the exclusion of basic curative care, particularly the lack of antibiotic therapy for acute respiratory infections which are a major cause of infant mortality.

4.40 The low average level and differential access to health centers and related facilities provides an indication of the need to improve the effectiveness of community health programs in providing health services to the poor in Indonesia. This is reinforced by evidence of underfunding of the O&M requirements of these programs. Estimates suggest that adequate O&M budgets might be around Rp.50 million for a health center and Rp.3 million for a subcenter. This implies a total requirement of about Rp.300 billion for the existing stock of health centers and subcenters. Additional requirements are superimposed by the accelerating establishment of village level outreach services through the POSYANDU. Estimates indicate a unit cost of about Rp.500,000 per POSYANDU, implying that full coverage would entail additional O&M costs of around Rp.110 billion. Thus total O&M requirements for community health might be of the order of Rp.410 billion, compared with present recurrent expenditures of perhaps Rp.140 billion. These figures suggest that there may be a need to raise O&M outlays by an additional Rp.270 billion in order to provide adequate funding for the existing poverty-oriented community health services.

Financing Health Programs for the Poor

4.41 The health sector's performance has been constrained by the deteriorating economic environment in the early 1980s. These trends have had

serious implications for improving the effectiveness of the health sector in poverty reduction. During REPELITA IV four major problems emerged.^{15/}

4.42 First, an overall resource mobilization problem resulted from the sector's heavy fiscal dependence on a low budget share of Central Government expenditure. In the mid-1980s expenditures on health were about 2.3% of Central Government spending in Indonesia, compared to an average of 5.6% in the other ASEAN countries. Expressed as a proportion of GDP, Government expenditures on health are about 0.6% in Indonesia compared to around 1.3% elsewhere in the region. In other words, Indonesia's sectoral expenditure effort is only about half the norm prevailing in neighboring countries. As a result of this low expenditure effort, the decline in Central Government spending led to a large reduction in real health expenditures (excluding routine transfers and foreign aid).

4.43 Second, an equity problem reflected in spending by the Central Government not reducing inter-regional inequalities in per capita spending on health. The allocations of central spending have an estimated elasticity of +0.72 with respect to per capita household income. This partly reflects the influence of population size in budgetary allocations. Similarly striking is the positive association between per capita central spending and local fiscal capacity (current receipts minus SDO plus IPEDA), with an estimated elasticity of +0.54.

4.44 Third, an internal efficiency problem, reflected in inadequate levels of overall recurrent expenditure (including the O&M component of development expenditure), and in a growing imbalance between personnel and non-personnel expenditures such as materials, transport and maintenance which are critical to making health staff productive. At the same time the switch in expenditure priorities away from investment towards recurrent expenditure funding had a severe effect on planned expansion of the low provision of sectoral capacity.

4.45 Finally, an allocation problem emerged. This appeared to be manifested in a reallocation of spending priorities away from communicable disease control (CDC) activities in favor of curative services delivered through hospitals and health centers. The adverse distributional effect of these trends is clear from the fact that the poor are dependent on public finance for preventive health services while hospital services primarily benefit the better-off.

4.46 The Government is planning to address these problems by raising the health sector share of the budget. The REPELITA V plan calls for an increase in the health sector share of the Central Government development budget (DIP plus INPRES) from the 2.0% average for REPELITA IV to 2.5% in REPELITA V. The 1990/91 budget provides for a sharp increase to 2.5% compared to 1.9% in 1989/90.

^{15/} For details see Issues in Health Planning and Budgeting, World Bank Report No. 7291-IND, February 28, 1989.

An Agenda for REPELITA V

4.47 The low level of utilization of health services by the poor in Indonesia indicates a need to lower existing barriers to access by improving both the quantity and quality of available services. On the investment side, priority could be given to increasing the supply of community health centers and subcenters in order to reduce travel time in poorer areas with more dispersed populations. This priority is reflected in the 1990/91 Budget which plans to increase significantly the number of these facilities. It will be important to ensure full implementation and to provide sufficient O&M funds for these additional facilities. At the same time, high priority needs to be given to raising recurrent expenditure on operations and maintenance inputs necessary to provide adequate service through fixed facilities, and to support the mobile outreach inputs to the village-level POSYANDU. Key components of the effort to raise quality may include: redistribution of specialist medical and paramedical personnel from tertiary to lower level hospitals; increasing the supply of doctors to understaffed health centers; increasing the supply of health center drugs, which presently cover only about three-quarters of annual requirements; and increasing the operational budget of health centers to ensure sufficient funds for travel in support of POSYANDU activities.

4.48 The need to improve both the quantity and quality of health services for the poor presents a potentially sharp trade-off between investment and recurrent expenditure from constrained budgetary resources. Resolving this trade-off will require a stronger resource mobilization effort both to increase the low health sector budget share and to raise the low level of cost recovery in the sector. On the budgetary side, it will be particularly important to channel proportionately more government resources in favor of poorer regions. On the cost recovery side, a key element will be to raise reimbursement levels from the ASKES health insurance scheme in order to reallocate subsidies channelled from the better-off government employees with insurance to the uninsured poor.

D. Nutrition

Performance Indicators

4.49 Malnutrition has important adverse effects on health by increasing susceptibility to infectious diseases; it also affects school attendance and performance among children, and labor productivity among adults. An important indicator of nutrition status is the prevalence of protein-energy malnutrition (PEM) caused by inadequate consumption of calories or protein and reflected in stunting (shorter than normal) and wasting (thinner than normal). International comparisons suggest that the prevalence of PEM in Indonesia is higher than a number of comparator countries in Asia (see Table 4.16).

**Table 4.16: PREVALENCE OF PROTEIN-ENERGY
MALNUTRITION (PEM) BY COUNTRY, 1985
(% of children aged 0-4)**

Country	Degree /a	
	Second	Third
Indonesia	27	3
Philippines	22	-
Thailand	4	1
Papua New Guinea	38	-
Sri Lanka	27	1
India	33	5

/a Second-degree malnutrition is defined as weight-for-age between 60-85% of desired standard weight-for-age. Third-degree refers to less than 60% of standard.

Source: 1988 Asia and Pacific Atlas of Children in National Development, UNICEF and ESCAP.

4.50 Recent data on the prevalence of malnutrition in Indonesia as measured by weight-for-age among preschool children have been collected in two consecutive SUSENAS surveys undertaken in 1986 and 1987. Comparing the average of these survey results with 1978 data from the National Vitamin A Survey suggests that there has been a slight reduction in the prevalence of PEM over the past decade (see Figure 4.1). This improvement appears to have been largely concentrated in urban areas. In rural areas, prevalence decreased less over the ten year period. There are also regional differences in the levels of the prevalence of PEM within Indonesia (see Table 4.17). These regional differentials reflect differences in the incidence of poverty. The prevalence of malnutrition is higher among the poor than the nonpoor (see Table 4.18). The association with income is especially strong in urban areas, with poor urban households having almost double the prevalence of malnutrition as the nonpoor.

The Targeting and Financing of Nutrition Programs

4.51 The Government's nutrition program, which is now delivered, among others, through the POSYANDU, has two basic components: (i) a monthly weighing program to measure the nutritional status of children below the age of five; and (ii) IEC (information, education and communication) activities to educate parents on nutritional matters and to enable them to use their resources effectively in preventing malnutrition. During the REPELITA V period, a new component will be tested in selected villages. This involves cultivation of a village garden by the PKK (family welfare movement) to provide food for use in the IEC component of the Government's nutrition program.

Table 4.17: PREVALENCE OF PEM ^{/a} BY REGION, 1986/87
(% of children aged 6-36 months)

	Rural	Urban	Total
Sumatra	12.5	7.7	11.3
West Java & Jakarta	12.3	11.1	12.6
Central Java & Yogyakarta	10.8	7.6	10.1
East Java	11.8	8.7	11.1
Bali	3.8	6.3	4.3
Nusa Tenggara	22.8	8.6	20.9
Kalimantan	17.7	8.1	15.5
Sulawesi	13.6	9.8	12.6
Maluku & Irian Jaya	18.3	6.8	15.9
INDONESIA	13.1	8.8	12.2

^{/a} Second- and third-degree protein-energy malnutrition.

Source: Mean of 1986 and 1987 SUSENAS.

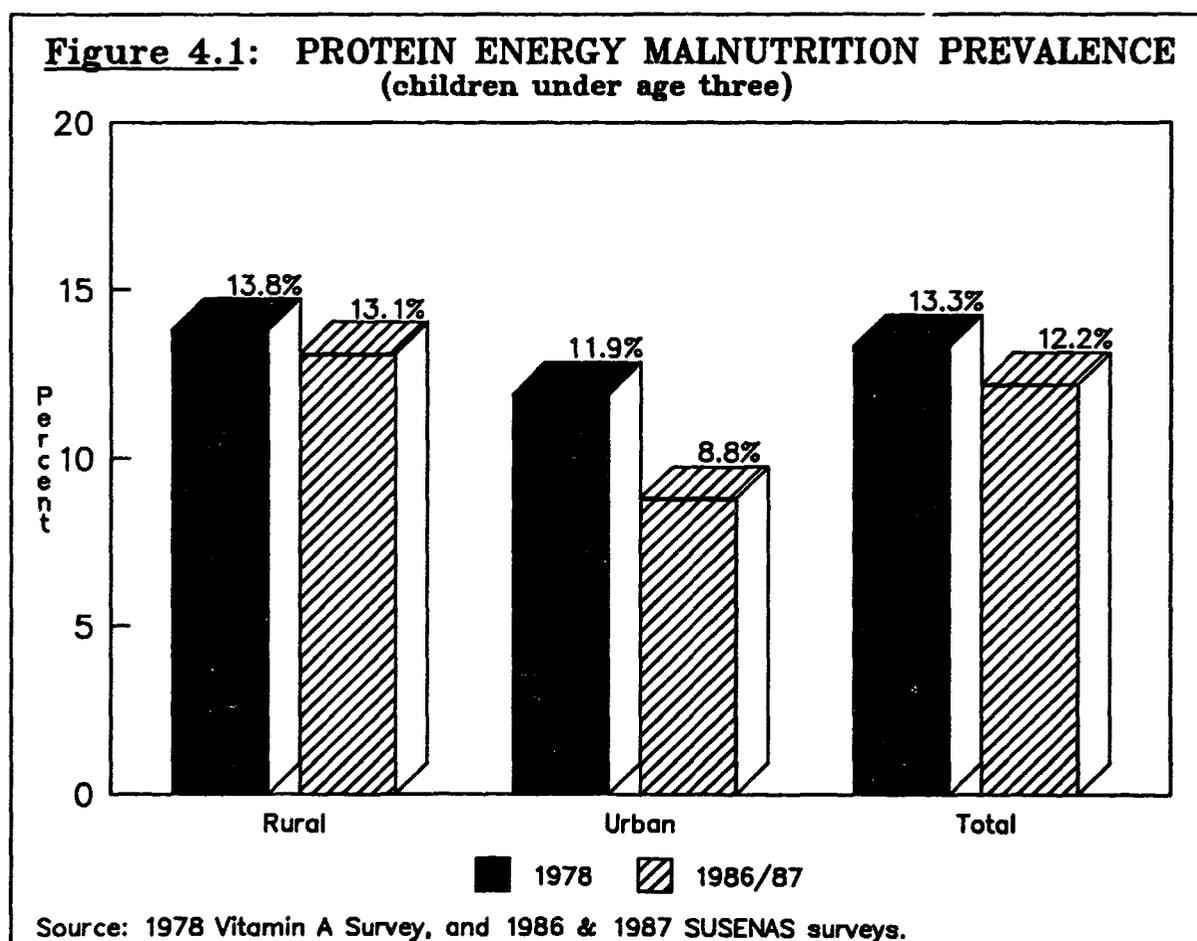


Table 4.18: PREVALENCE OF PEM BY EXPENDITURE CLASS
(% of children aged 6-36 months)

	<u>Urban</u>			<u>Rural</u>			<u>Total</u>		
	Poor	Nonpoor	Total	Poor	Nonpoor	Total	Poor	Nonpoor	Total
Well nourished	87.9	92.3	92.1	84.5	88.8	87.7	84.7	89.8	88.7
Moderate mal-nutrition	11.6	6.6	6.8	13.5	9.8	10.8	13.5	8.9	9.9
Severe malnutrition	0.5	1.1	1.1	1.9	1.4	1.5	1.9	1.3	1.4

Source: World Bank staff estimates from the 1987 SUSENAS survey.

4.52 Problems in the design of the Government's nutrition interventions limit the ability of the program to achieve significant reductions in the incidence of PEM among poor children. There is a need to incorporate supplemented feeding more effectively in the program. IEC activities are expected to be less effective in eliminating malnutrition among the poor when the poor cannot afford to purchase adequate amounts of food. Another problem is that the nutrition program depends too heavily upon the volunteers because logistical support from the health center network has not been adequate. The number and training of these volunteers varies significantly across provinces. This problem has been exacerbated by the rapid expansion in the number of POSYANDUs.

4.53 In addition to these problems of program design, the nutrition improvement effort has been handicapped by lower resource availability. Central Government development budget allocations for the nutrition program were cut significantly in real terms between 1985/86 and 1988/89 (see Table 4.19). Project aid compensated partly for this decline, as the total availability of central resources for nutrition dropped by less than development expenditures in real terms. This was reflected in a decrease in average expenditure per malnourished child from around Rp.7,000 in 1985/86 to Rp.5,000 in 1988/89.

4.54 The effect of the lower overall resource availability has been exacerbated by the targeting of expenditures between provinces. For example, cumulative nutrition spending by the Central Government over this period varied significantly across provinces. The need for better targeting extends beyond the interprovincial distribution of nutrition expenditures to the allocation between districts and subdistricts within provinces. There are also wide differences in the prevalence of PEM between

subdistricts within individual districts.^{16/} For example, in Tanah Data district in West Sumatra the prevalence of malnutrition ranges from 2.4% in Salimpuaung subdistrict to 34.1% in Tanjung Emas.

Table 4.19: TRENDS IN CENTRAL DEVELOPMENT BUDGET ALLOCATIONS
FOR NUTRITION
(Rp. billion)

	1985/86	1986/87	1987/88	1988/89
<u>Total expenditures (current prices)</u>	<u>9,900</u>	<u>10,411</u>	<u>12,952</u>	<u>11,531</u>
APBN-DIP	5,200	3,533	1,988	3,405
Foreign Project Aid	4,700	6,878	10,964	8,125
<u>Total expenditures (constant prices)</u>	<u>8,648</u>	<u>6,712</u>	<u>7,782</u>	<u>6,478</u>
APBN-DIP	4,542	2,278	1,195	1,913
Foreign Project Aid	4,106	4,434	6,587	4,565
<u>Memo Items:</u>				
Rp per malnourished child (constant prices)	7,052	5,334	6,085	5,018

Source: World Bank staff estimates.

An Agenda for REPELITA V

4.55 The Government recognizes these problems with the nutrition program and is making efforts to address them during REPELITA V. Several areas deserve priority attention. First, for children with severe PEM, there is a need for rehabilitation by providing supplemental feeding over a period of two to three months. While this would be costly both in staff and financial sources, it is probably the only effective intervention available to alleviate the problem of severe malnutrition which affects almost exclusively the poor. Programs in India, which have been relatively successful, could provide useful information for establishing similar programs in Indonesia. Second, the Government's general nutrition program administered through the POSYANDU could be better targeted by concentrating the IEC efforts in those areas where the rate of poverty or malnutrition is high. Ensuring adequate logistical support from health centers would be important in strengthening the nutrition program in general. And finally, the nutrition program has suffered significant budgetary reductions during a period of considerable expansion. Additional resources will be necessary to achieve further reductions in the incidence of malnutrition in rural areas.

^{16/} See Annex Table 11.

V. HUMAN RESOURCE DEVELOPMENT FOR THE POOR

PART II - OTHER BASIC SERVICES

A. Introduction

5.1 Basic services such as water supply, waste disposal, housing and other community services are essential to the poor. Without progress in improving the poor's access to basic services, the effectiveness of any improvements in the social services, such as health and education, could be seriously impaired. Although the basic goals are the same, Government strategies and priorities necessarily differ between rural and urban areas, because of different needs and institutional frameworks. In rural areas, the critical need is water supply and sanitation. Other basic services are less critical, as living conditions are less cramped and housing conditions are generally better. In urban areas a broader program of basic service provision is required to address the needs of the urban poor. Therefore, it would be desirable for urban development policies to shift towards the active preparation and accommodation of the accelerating urban population, particularly of lower income groups. Issues in rural water supply and sanitation are discussed in Section B, and the provision of basic services for the poor in urban areas are discussed in Section C.

B. Rural Water Supply and Sanitation

5.2 Introduction. Improved water supply and sanitation in rural areas can have wide ranging health, economic, social and environmental benefits.^{1/} While the extent of the health benefits from rural water supply and sanitation (RWSS) have been the subject of considerable debate, a recent review found that diarrhea is typically reduced when water supply and sanitation are improved and mortality from these diseases is somewhat less.^{2/} This is important for Indonesia, as health statistics indicate that diarrhea is the main cause of post-neonatal mortality and the second leading cause of death among children.^{3/} The most significant improvements in health are usually achieved through a combination of water supply and sanitation, and personal and household hygienic practices, illustrating the need to develop water supply and sanitation in less-privileged rural areas in combination with support programs such as health education.

^{1/} For a discussion of the benefits and costs of RWSS as well as a framework for developing a new approach, see Anthony Churchill et al., "Rural Water Supply and Sanitation: A Time For A Change," World Bank Discussion Papers, No. 18, Washington, D.C., September 1987.

^{2/} See, John Briscoe and David de Ferranti, Water for Rural Communities: Helping People Help Themselves, The World Bank, Washington D.C., March 1988.

^{3/} See, A Situation Analysis for Women and Children in Indonesia, Government of Indonesia - UNICEF, April 1989.

5.3 The greatest effect on health from the provision of RWSS is likely to come from improved sanitation facilities and an increase in water quantity. ^{4/} In a number of countries studied, it has been noted that diarrhea was primarily reduced because of the availability of water rather than the quality.^{5/} The low per capita consumption levels currently prevailing in many rural areas in Indonesia may, therefore, have an adverse effect upon health status. Furthermore, the benefits of RWSS on women and children can be especially important, as they play a major role in carrying water. The time and energy saved can be put to more productive use and relief from the physical burden of carrying water can have salutary effects upon their health, especially the poor who suffer from inadequate caloric intake.

RWSS Service Levels

5.4 There is little reliable information about the sources of RWSS in Indonesia or the proportion of the rural population with access to reasonably "clean" water supply or to "proper" sanitation facilities. In 1986, the Ministry of Health carried out a Household Health survey covering seven provinces in Indonesia.^{6/} In addition to surveying health indicators, data were collected on the source of drinking water supply and the type of sanitation facility by areas (urban and rural) and by provinces. Therefore, it gives an indication of the adequacy of the coverage of RWSS. By source, nearly one-half of all Indonesians living in rural areas obtain their drinking water from ground water sources (i.e., pumped or dug/open wells) and another 27% from rivers (see Table 5.1). It can be assumed that only 20% of the dug wells in rural areas yield a "clean" supply of drinking water.^{7/} River water and other sources can not be considered as safe sources of drinking water supply in most provinces. Therefore, the proportion of rural households with access to a "clean" source of drinking water in rural areas is estimated at about 36%. Although no data are

^{4/} This applies equally to urban water supply and sanitation. In fact, given the crowded conditions prevailing in most urban areas in Indonesia, there may be even greater benefits to improved water supply and sanitation facilities in urban areas. Issues in urban areas are discussed in paras 5.18-5.40 below.

^{5/} By tradition, many Indonesians both in urban and rural areas boil their water before drinking, which reduces the risks of infectious diseases. No study or research has been done on the economic side of this tradition, but to the extent that this is a widespread phenomena in Indonesia the benefits from the provision of clean water will be reduced.

^{6/} The provinces covered were: D.I. Yogyakarta, Bali, North Sulawesi, Bengkulu, West Kalimantan and West Nusa Tenggara.

^{7/} This assumption is based on the findings of two independent studies: (i) a GOI/WHO study on drinking water quality carried out in 1987 in Yogyakarta, in which about 80% of all the open wells sampled were found to be contaminated with faecal coliforms and therefore, unfit for drinking water; and, (ii) a study which measures the quality of water samples from handpumps in eight provinces tested in 1987 in which about 75 percent of

available which differentiate between urban and rural areas by province, Yogyakarta and Bali have relatively better coverage of clean water supply; lower coverage levels were observed in Bengkulu and West Kalimantan.

Table 5.1: DRINKING WATER SUPPLY SERVICE LEVELS IN RURAL AREAS

Type of Facility/Source	Number of Households	%	Percentage Considered as Clean Supply	Percentage of Clean Coverage Level
Piped supply	197	0.49	100%	0.49
Artesian well	86	0.22	100%	0.22
Pumped well	2,041	5.12	100%	5.12
Spring	5,185	13.01	100%	13.01
Dug/open well	17,975	45.16	20%	9.05
Rain collectors	3,165	7.94	100%	7.94
River water	10,804	27.12	0%	0.0
Other sources	370	0.93	0%	0.0
Total	39,843	100.00		35.8%

Source: 1986 Household Health Survey, Ministry of Health.

5.5 The survey also contained information on the method of excreta disposal by areas and by provinces. The analysis indicated that only a small proportion of households in rural areas had access to adequate sanitary excreta facilities (see Table 5.2). Almost three-quarters of rural Indonesians use either rivers/ponds or ground/soil for disposing of excreta.

Table 5.2: SANITATION SERVICE LEVELS IN RURAL AREAS

Sanitation Facility	Number of Households	%	Percentage Considered as Proper Disposal	Percentage of Proper Sanitation Coverage
Septic tank	11,912	8.0	100%	8.0%
Without septic Tank (latrine)	28,818	19.4	50%	9.7%
River/pond	70,004	47.0	0	0
Ground/soil	38,081	25.6	0	0
Total	148,815	100.0		17.7%

Source: 1986 Household Health Survey, Ministry of Health.

It is estimated that only 18% of households can be considered to have access to "proper" sanitary excreta disposal facilities. In the Philippines, it is estimated that about 62% of the rural population have access to proper facilities.^{8/}

5.6 While no data exist about the variation of coverage levels among income classes, available statistics by the education level of household heads, which is a proxy for household income, indicate that the poor are likely to be disadvantaged in terms of access to and adequacy of RWSS (see Table 5.3). In households headed by individuals with less than a primary school education only about 35% have access to reasonably "clean" drinking water compared to 52% of households whose head has more than a primary school education. Similarly for sanitation, the coverage levels are 16% and 59%, respectively. Another indirect indicator of the relative disadvantage of the poor is distance to water sources. The proportion of rural villages within 200 meters of a water source varies among provinces from 32% to 97% in East Nusa Tenggara--one of Indonesia's poorer provinces.^{9/} There is a high correlation between the incidence of poverty by province and distance to a water source. As a result, the study found that actual per capita water utilization in the poorer provinces was lower due to the distance to the source, indicating an adverse effect upon health through the limited availability of water and a high time cost for fetching the lower quantities of water.

Table 5.3: ACCESS TO RWSS BY EDUCATION LEVEL OF HEAD OF HOUSEHOLD

	<u>Percentage of Group With Access</u>			
	No Schooling	Not Completed Primary	Primary School	Above Primary School
Access to "clean" drinking water	37.8	33.5	41.7	51.8
Access to "proper" sanitation	15.3	17.0	30.9	58.7

Source: Bank staff estimates from the 1986 Household Health Survey, Ministry of Health.

the samples were not bacteriologically safe. See, A Situation Analysis of Women and Children in Indonesia, *op. cit.*

^{8/} Water Supply, Sewerage and Sanitation Master Plan of the Philippines 1988-2000, The Government of the Philippines, 1987.

^{9/} See, Evaluation of the INPRES Water Supply and Sanitation Program, *op. cit.*

5.7 This analysis of coverage levels indicates the following:

- (a) service levels in Indonesia are low relative to other developing countries in the ASEAN region;
- (b) there is an imbalance between water supply coverage and sanitation coverage with sanitation service levels far lower than water supply service levels, yet the available evidence suggests that the health benefits of sanitation are higher;
- (c) there has been a bias in the efforts to provide water supply and sanitation between urban and rural areas, which favors urban areas; and
- (d) more importantly, there is indirect evidence of an apparent imbalance between the poor and the nonpoor.

As a result of these factors, the current situation may pose risks to the health status of rural communities, particularly the rural poor and current Government efforts, as broadly outlined in REPELITA V, to redress the existing situation are clearly warranted.

Past RWSS Programs and Their Effectiveness

5.8 The Government's RWSS program started in 1969 with the inception of Indonesia's first Five-Year Development Plan (REPELITA). However, there was very little provision for implementation until 1974, the beginning of REPELITA II, when significant allocations were made from INPRES for RWSS development.^{10/} Provision of water supply and sanitation in Indonesia is primarily the responsibility of local governments, but since they did not have the technical capacity to implement RWSS, the following institutional responsibilities were established: Ministry of Home Affairs: institutional and organizational development, community participation, and operations and maintenance; Ministry of Health: assistance for planning and implementation of RWSS, technical development of simple water supply and sanitation schemes in rural areas, and health education; and, Ministry of Public Works: simple piped water supply schemes in rural areas. This program consisted of the installation of water supply facilities (dug wells, handpumps, rain collectors, etc.) and sanitation facilities (family latrines and waste water disposal).

5.9 Total expenditures on RWSS from GOI resources totalled about Rp.170 billion through the third year of the REPELITA IV period. External assistance during REPELITA III amounted to about US\$30 million, which represented only 9% of total external assistance to water supply and sanitation. During REPELITA IV, this assistance is estimated to have remained about the same in nominal terms. Virtually all of the aid provided by

^{10/} There have been four funding channels for RWSS: (i) INPRES allocations; (ii) National Development Budget (DIP); (iii) Provincial Government Budget (APBD); and (iv) external assistance. INPRES resources constituted by far the largest funding amounting to about 85% of the total national budget to the subsector; DIP and APBD contributions have been small.

multilateral financial institutions was to the urban sector. Among bilaterals, the Dutch Government assisted RWSS development in West Java, AIDAB (Australian International Development Assistance Bureau) in West Nusa Tenggara and JICA in North Sumatra (as a component of the Asahan Power Supply Project). The UN agencies active in the RWSS subsector are UNDP, UNICEF and WHO. UNICEF contributed the largest proportion of all external assistance to the RWSS subsector. Moreover, UNICEF plays a rather unique role by executing water supply and sanitation projects (both rural and urban) in combination with health education and information, communication and motivation programs.

5.10 In response to a number of implementation problems with the Government's INPRES-funded RWSS program, an analysis of the program was undertaken by the Government in conjunction with UNICEF and WHO. The study revealed that the life expectancy of the facilities was much shorter than planned, and frequent breakdowns and inadequate maintenance have resulted in a coverage of 50% less than planned in the surveyed provinces (West Sumatra and West Java). In addition to low coverage, the lack of management skills resulted in little accountability for implementation and financial performance. Moreover, the INPRES guidelines did not clearly define the areas of responsibility and accountability, which led to planning and funding delays, the supply of inappropriate and inadequate materials, and poor design and construction works.

5.11 As a result of this evaluation, the Government appropriately scaled down the RWSS program. Beginning in 1987/88, the allocation of INPRES funds for RWSS declined drastically. INPRES allocations for water supply dropped to about Rp.0.5 billion during the last two years of REPELITA IV, a 95% cut in the allocation. Allocations were made only as counterpart funds for externally assisted projects. The sanitation program suffered similar reductions with the INPRES allocation cut by almost 87% to Rp.0.1 billion annually, as compared to an average of Rp.0.8 billion a year in the first three years.

5.12 During REPELITA IV, the Ministry of Health and some external agencies developed their own community-based approaches to find appropriate RWSS technologies that the communities would accept and could afford. Several of these programs were in conjunction with community-based organizations active in the rural areas of Indonesia. Although there were a number of pilot programs with successful results, these have yet to be incorporated fully into the Government-funded INPRES program.

5.13 Among the many pilot projects that were undertaken, three programs deserve close attention with a view towards wider replication:

- (a) one is the UNDP/WHO assisted Bengkulu/Lampung RWSS project. The project's objective was to train the concerned units at the district and village levels with a community based approach. Village level organizations (LKMD) were trained by PUSKESMAS staff (sanitation), PKK and BANGDES Village Developer to participate in every phase from planning to operations and maintenance. "Task forces" were established at the district level for hydrogeological surveys, well drilling and handpump installation. This proved to be an effective means for large-scale implementation of RWSS.

- (b) the AIDAB-funded RWSS Project in West Nusa Tenggara (NTB) is another model again relying heavily on community participation. Inputs provided by the project resulted in the construction and better use of simple schemes. Interventions, on the other hand, have motivated and ensured the participation of the villagers to operate and maintain these facilities.
- (c) the Ministry of Health also developed a pilot program, which emphasized the linkages between health education, community participation and the provision of RWSS hardware. The approach for motivating community participation was built around the POSYANDU (Integrated Health Services Post) system. A demonstration area was selected in South Sulawesi and the pilot was carried out with funds from UNDP/WHO South Sulawesi RWSS Project. The POSYANDU leaders were trained by district and PUSKESMAS staff (health workers and sanitarians) and by PKK officials to organize, educate and motivate the village mothers. A cost recovery mechanism and a revolving fund were also established. This pilot was relatively successful and in four villages in the Patampanua district, the number of usable facilities increased almost three fold.

An Agenda for REPELITA V

5.14 RWSS remains critical to the livelihood and the quality of life of rural Indonesians, particularly the poor. Access to a "clean" source of water supply and "proper" sanitation facilities are currently available to only a few in rural areas. Therefore, RWSS is an important priority for Government expenditure and staff resources during the REPELITA V period.

5.15 The Government recognized this priority and committed itself to make an intensified effort during the REPELITA V period to increase substantially the coverage of RWSS over the medium term. First, the Government reorganized responsibilities for RWSS. The Governor will be in overall charge of the provision of RWSS and, in conjunction with the Ministry of Home Affairs, will coordinate the efforts of both the Ministries of Public Works and Health. The Ministry of Public Works will be responsible for all facility construction in rural water supply and sanitation, including low technology systems such as handpumps, rain water collectors, and sanitary latrines. The Ministry of Health will be responsible for water quality, community participation and health education through the health center sanitarians. This represents an improved organizational structure over that which prevailed in the past, since the Ministry of Health has a comparative advantage in organizing community participation and health education as has been done through the POSYANDU program.

5.16 During the REPELITA V period, a new RWSS scheme will be implemented with INPRES funds in a large number of villages. In selecting these villages, priority will be given to water scarce areas, endemic diarrhea areas, fisherman's villages and transmigration sites. The approach will be a community-based approach with the sanitarian organizing a "rural water supply club" in each village to assist in the planning, implementation, operation and

rehabilitation of the RWSS facilities. Surveillance of drinking water quality and the operation of the sanitation facilities will also receive special emphasis and quality control systems will be established in every Kabupaten.

5.17 With this new program outlined in REPELITA V, the Government has clearly recognized the benefits which can be derived from improved water supply and sanitation facilities in rural areas, particularly in lower income areas, and is taking steps to raise service levels. Several factors will be critical to the success of this program:

- (a) a clearer definition of institutional responsibilities, as well as a mechanism established to coordinate the various ministries involved in implementation. In particular, institutional responsibilities for non-piped water systems need to be clearly established and the appropriate staff trained in the application of this technology;
- (b) the use of low-cost appropriate technology. The experience in Indonesia and other countries indicates that simple handpumps and rain collection systems hold the highest potential, because of the availability of groundwater;
- (c) the availability of trained sanitarians in each of the villages selected for demonstration systems. In the past, the RWSS program has suffered from an insufficient number of trained personnel;
- (d) the use of a cost recovery mechanism to provide funds for the operations and maintenance of these systems with the capital cost provided through the INPRES program. The success of many pilots indicate that cost recovery is feasible and unlikely to affect adversely the access of lower income groups; and
- (e) the use of community-based groups in the implementation of the RWSS. This will help to: increase village acceptance of RWSS systems; organize water supply "clubs;" and lessen the financial and staffing constraints of the Government.

C. Basic Services for the Poor in Urban Areas

Introduction

5.18 Some 45 million or about one quarter of Indonesia's total population are urban residents. Net migration and natural growth have combined to produce an overall population growth rate in Indonesia's cities of about 4.7% p.a. during the 1980s, more than double the national population growth rate. Urban areas are projected to continue to grow rapidly at about 4.4% p.a. throughout the 1990s. Many of the migrants into urban areas will be unskilled rural laborers from lower income groups and shifting urban policies towards the accommodation of this expansion will be a priority in urban areas. In designing and implementing a strategy for the provision of basic services for the urban poor, two factors will be important. First, the average urban dweller is unambiguously better off than the average rural dweller in terms of

income levels and other social indicators. Second, while the percentage of the urban population in poverty is higher than in rural areas according to the Official Poverty line, there are far fewer urban poor than rural poor. Nevertheless, there are still a significant number of the urban poor and future migration trends may further increase their absolute numbers in the next decade. In view of this, the Government's emphasis, as outlined in REPELITA V, on cost recovery (on average) for urban services, and on providing more services to the poor is appropriate.

5.19 The analysis in this section relies upon an extensive survey of living conditions in urban Indonesia conducted by the Urban Institute during May-July 1988.^{11/} In addition to data on the access to urban services and housing conditions, the survey also collected information on household income and expenditures, which permits an analysis of urban service provision according to income classes. These data show a similar proportion of the urban population in lower income groups as the 1987 SUSENAS survey (see Table 5.4). For the purpose of analyzing the provision of basic services to the "poor" in urban areas, we consider households in the two lowest income brackets (i.e., less than Rp.50,000/month, and Rp.50,000-100,000/month) to be the "poor" and the other households "nonpoor"; as measured by this survey, about 25% of urban dwellers would be considered "poor".

Table 5.4: DISTRIBUTION OF URBAN HOUSEHOLDS BY INCOME CLASSES, 1988 (%)

Household Income (Rp)	Jakarta	Other Large Cities	Medium Sized Cities	Small Cities	Total
0 - 49,000	2.8	3.5	5.2	1.7	3.7
50,000 - 99,999	18.3	21.9	28.5	16.1	22.7
100,000 - 199,999	41.9	40.3	36.4	50.9	40.9
200,000 - 399,999	26.0	24.5	19.6	25.1	23.0
Above 400,000	11.0	9.7	10.3	6.2	9.7
	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
Household distribution by category (%)	23.2	20.7	39.2	16.9	<u>100</u>

Source: The Urban Institute and P.T. Hasfarm Dian Konsultan, "Data Book on Urban Housing in Indonesia, Housing Policy Studies Project, p. 61.

^{11/} See Urban Institute and P.T. Hasfarm Dian Konsultan, "Household Survey Documentation for Housing Market Behavior, Packet B, Housing Policy Studies Project," October 1988, and "Data Book Urban Housing in Indonesia," November 1989, Housing Policy Studies Project.

5.20 The provision of subsidized basic services and infrastructure to meet the basic needs of the urban population has been a longstanding policy of the Government as a means of poverty alleviation. This policy has recognized that the urban poor are situated in two types of locations. First, they can be found in clearly identified places such as on the periphery of towns, along railways, canals and open drains, and in low lying and swampy areas. Reaching this group will require specific, subsidized interventions. The second group is dispersed among the general population, side-by-side in kampungs with much more affluent households. From the standpoint of assisting the poor, this has disadvantages and advantages. On the one hand, the poor are harder to identify and thus it is extremely difficult to target programs; the better-off tend to get most of the benefits of poverty programs. On the other, it can permit cross-subsidies between rich and poor in the provision of basic services. However, reaching the urban poor is made more difficult by the fact that the poor are also highly mobile. There are probably four million "circular migrants" on Java who spend a substantial part of each year in urban areas. These are not included in the urban population data (they would add about 10% to the urban population). They are also disproportionately poor compared to other urban dwellers.

5.21 The remainder of this Chapter discusses interventions to improve basic service provision for the poor in urban areas. First, this would involve improved sectoral programs, particularly water supply and sanitation. Water supply and sanitation sectoral programs, which are discussed in the next two sections, have important implications for health status; the benefits are similar to those outlined for the rural poor in the previous section of this Chapter, but the health effects are likely to be greater in urban areas because of existing crowded and unsanitary conditions. Second, the urban poor have additional infrastructural needs stemming from the high density of urban areas compared to rural areas and the fact that many cities in Indonesia are in low-lying, flood prone areas. Second, the Kampung Improvement Program (KIP), which is discussed in the third section, is a Government program of on-site upgrading of urban "villages", (i.e., areas where the poor are heavily concentrated) through the provision of basic infrastructure and socioeconomic programs to improve the living conditions of low-income urban dwellers. Finally, there is a discussion of issues in providing for the shelter needs of the poor, both through Government programs and a reform of the regulatory environment.

Water Supply for the Urban Poor

5.22 Progress has been made in the 1980s in providing reasonably safe drinking water to urban areas. The proportion of urban dwellers with access to piped water and pumped wells is about 46% in 1987 compared to 39% in 1980.^{12/} This progress can be attributed to a major effort by the Government beginning during REPELITA III and continued through REPELITA IV to provide piped water sufficient for the basic needs of at least 60% of all urban dwellers. In 1988, it was estimated that 24% of urban households obtain their drinking water from piped water, 22% from pumped wells, 41% from open wells, 11% from water vendors (presumably public standpipes) and a very small remainder from a

^{12/} This calculation compares the 1980 Census data with results from the 1988 Urban Institute study.

variety of sources (see Table 5.5). Virtually no urban dwellers obtain their drinking water from rivers, indicating that the dangers of consuming untreated river water is well understood in urban areas.

Table 5.5: SOURCE OF DRINKING WATER -- URBAN HOUSEHOLDS, 1988
(%)

	Poor	Nonpoor	Total
Mineral water	0.0	0.1	0.1
Piped system	12.5	28.3	24.2
Pumped wells	16.0	24.4	22.2
Other wells	59.4	34.0	40.7
River	0.0	0.0	0.0
Peddlers	10.1	11.1	10.8
Rain water	1.0	0.1	0.7
Other	1.0	0.1	0.7

Source: Urban Institute and P.T. Hasfarm Dian Konsultan, op. cit.

5.23 These data indicate significant disparities between poor and nonpoor households in regard to access to reasonably safe water supplies. Almost 60% of poor households in urban Indonesia obtain their drinking water from open, unprotected wells. For the rich, i.e., those with household incomes exceeding Rp.200,000, this percentage declines to only about 20%.^{13/} Therefore, the situation for the poor, who are confined to shallow groundwater for the most part, is becoming critical, especially in Jakarta where the groundwater levels are sinking due to uncontrolled extraction. Saline intrusion and industrial pollution into deeper ground water are also a serious problem, and the role of standpipes or a viable alternative has become increasingly important.

5.24 The basic needs approach adopted by the Government specifically emphasized the needs of the urban poor; households unable to pay for a house connection would obtain water from public standpipes. In the past, Government funds have provided standpipes through three channels: (a) the KIP program; (b) the water supply sectoral program; and (c) to a lesser extent, the INPRES programs. Under the KIP program, which was considerably smaller than the water supply sectoral program, a higher proportion of water supply was provided through standpipes although not all were successful, usually due to water enterprise resistance. Under the water supply sectoral program, guidelines were established that required half of all beneficiaries of public water supply systems be served through private connections and half through public standpipes.

^{13/} This comparison probably understates the true differential in access between the poor and the better off, because it is likely that many pumped wells of the poor do not yield "clean" drinking water and a higher percentage of their wells are contaminated.

5.25 If the water supply program is judged by its ability to reach those households unable to pay for a house connection, then its achievements during REPELITA IV fell short of the targets. The Government's stated objective was to reach 50% private connections and 50% public standpipes. The ratio was in fact lower. A 1988 master planning study for the water sector revealed that in large cities none achieved the desired standard and, on the whole, only 26% of the population was served by the municipal water supply system (compared to a target of 75%), while the ratio of persons served by house connections and standpipes was 75:25 (see Table 5.6).

Table 5.6: WATER SUPPLY SERVICE LEVELS IN MAJOR CITIES--1988

City	Population	House Connections		Standpipes		Service	Overall
	(1985)	Persons	Persons	Persons	Persons	Ratio	Service
	('000)	Served	Served	Served	Served	HC:S	Level
		No.	('000)	No.	('000)	%	X
Jakarta	7,709	130,637	980	1,060	297	76:24	17
Bandung	2,237	67,696	474	1,106	221	68:32	31
Surabaya	2,158	98,057	598	2,304	347	63:37	44
Medan	1,600	62,424	437	163	24	95:5	29
Semarang	1,033	28,013	170	778	156	52:48	32
Palembang	1,016	42,474	382	189	29	93:7	40
Ujung Pandang	908	31,483	189	879	132	59:41	35
Bogor	895	18,496	148	21	4	97:3	17
Surakarta	671	16,739	117	356	45	72:28	24
Yogyakarta	431	10,239	102	115	10	91:9	26
Malang	516	23,232	139	150	15	90:10	30
Total	19,177	529,490	3,737	7,121	1,278	75:25	26

Source: MPW Support Study for Master Planning for Water Supply Subsector Policy, 1988.

5.26 Public standpipes have been provided in a variety of forms in the past. Water enterprises that had difficulty in raising capital sometimes provided taps for private concessionaires at full cost. These taps (Hydran Umum) are operated exclusively by the concessionaire who normally distributes supplies through vendors throughout the extensive service area. Water purchased through such concessionaire/vendor systems can cost as much as 30 times the official price per cubic meter to the concessionaire. Where public funds were available (through KIP for example) as an equity contribution to the water enterprise, a publicly-managed tap (Hydran Contoh) was constructed and operated by a community (usually under LKMD supervision). Some of these taps were planned and constructed in close cooperation with the community and this resulted in much lower supply costs; however, some of these taps were also managed by concessionaires with little involvement of the community. In

general, the role of standpipes for serving the water needs of the poor is currently inadequate. In 1988, about 11% of all households rely on water vendors (the main distribution channel for standpipe water), and the income distribution of that group closely matched the income distribution of all urban households (see Table 5.5). This suggests that standpipes were not reaching poor households to the extent that may be desirable.

5.27 The standpipe program suffered from a number of deficiencies. The concessionaire/vendor systems result in monopolistic behavior, excessive costs and low levels of service to the poor. These are more attractive to water enterprises since they involve full cost recovery and can bring substantial financial returns. Community-managed systems are often unprofitable to the water enterprise, poorly maintained and unreliable. These are unattractive to the enterprise since they consume scarce capital, provide lower returns and require skilled dealings with the community.

5.28 As a result, by the end of REPELITA IV, a situation had arisen in which neither the local water enterprises were motivated to provide standpipes nor were the poor generally benefitting from those that were available. The local water enterprises were required to meet financial performance objectives, requiring them to show profits. This was in direct conflict with their social objectives of providing subsidized water to the poor (the current national tariff structure provides for the supply of water for the poor, i.e., through standpipes, at 25-35% of the average cost of supply). For most enterprises substantial profits were being made from house connection fees and residential tariffs but none from constructing public standpipes which also generally require more maintenance attention. The financial incentives facing the water enterprise are the primary cause of this situation. The Government's grant financing mechanism for water enterprises focuses on water production and primary distribution and is not linked to the achievement of the enterprises' social objectives.

5.29 Moreover, the costs of standpipe management and distribution have prevented the poor from benefitting from the water tariff subsidy. A breakdown of typical water costs at a public standpipe under favorable circumstances (i.e., nonprofit making) show that 25% of the price of the water sold can be attributed to the tariff and 75% to standpipe management; a ratio of tariff price to purchase price of 1:4. In addition at many standpipes, water vendors distribute the water. This distribution system increases dramatically the overhead, leading to a price ratio of up to 1:30.^{14/} Some households use vendors because a number of standpipes involve extensive queuing. However, in some instances especially in Jakarta, what began as a low-cost water distribution system through public standpipes with concessionaires had evolved by the end of REPELITA IV into a powerful informal monopoly that charged excessively with the possible connivance of local water authority staff and generally did not allow households direct access to the standpipes.

^{14/} Of course, standpipe users purchase only relatively small quantities but for the poor this could up to 20% of household income, if the basic needs quantity of 30 liters per capita were purchased.

5.30 An agenda for REPELITA V. The problems with public standpipes and the resulting inability of the water supply system to reach the poor is well known and the Government has begun to address the issues in REPELITA V. A crash program of expanding water supply outlets for the poor was undertaken during 1989/90, the first year of REPELITA V. The supply of public standpipes was increased by 3,854. In Jakarta, where the problem was the most severe, 655 additional standpipes were installed, implying more than a 60% increase in one year. Moreover, 758 new temporary facilities, terminal air, were also built to distribute water, in areas not reached by the distribution network. An important objective of this expansion has been to break the concessionaire/vendor monopoly and establish a more intensive network of standpipes. The preliminary evidence on water prices indicates that this is being accomplished as prices in Jakarta have fallen by an average of 40%.

5.31 Consolidating this effort into a long term solution to the water needs of the poor requires addressing the threefold problem of: (i) the need for more public tap outlets in proximity to the poor and the establishment of procedures for their operations and maintenance; (ii) the drain of public taps on water enterprise finances; and, (iii) the excessive cost of water to the consumer. Changing the financial incentives facing water enterprises by allocating Central Government grant funds for urban infrastructure for both construction of standpipes and their operation would serve to reduce the drain on their finances in two ways: (i) capital grants to the water enterprises could be explicitly linked to the construction of standpipes and distribution systems to poorer areas of the cities. The KIP program could be an important means to accomplish this as well as the sectoral program. The remaining capital costs of water enterprise operations could be recovered directly from the beneficiaries of private connections (thereby permitting the use of loan finance for expansion); and (ii) the allocation of an operating subsidy to the water enterprises by the local government directly related to water consumption by the poor. The subsidy could be related to the volume of water supplied through standpipes at concessionary rates.^{15/} The local government funds for this purpose could be obtained from the district or health INPRES allocations or the KIP DIP allocation. The INPRES and KIP funds could be augmented for this purpose if necessary by reallocation of funds from water supply DIPs.

5.32 A second important initiative involves the full deregulation of water distribution. In parallel with expanding the supply of standpipes, the cost of standpipe water could be reduced by allowing anyone with a house or yard connection to sell water, thereby increasing significantly the number of public outlets by just one deregulatory action. The Government made a major step in this direction recently when it issued a regulation permitting any individual in Jakarta with a private connection to sell water on a trial

^{15/} For illustration purposes it is useful to consider the budgetary implications of such a subsidy. On the basis of a subsidy of Rp.100/m³ and a consumption of 30 liters per day by the 10 million urban dwellers in the bottom 25% of the income distribution, the total annual operating subsidy required would be about Rp.11 billion/year.

basis. This action could prove extremely effective in eliminating the excessive rents currently being received by individuals managing and distributing water. The results of the trial in Jakarta need to be closely monitored with a view towards wider replication.

5.33 Finding a viable system of managing and maintaining standpipes is a third important area. As the Government has attempted in 1989/90, the cost of standpipe management can be reduced by the use of community groups, such as LKMD, to carry out this function. The involvement of the community first in planning of its water supply system and house connection/standpipe arrangements is an important consideration. Effective community participation and consultation requires particular skills and approaches that, while adopted in KIP, have not often featured in sectoral programs in the past. Finally, efforts to increase the availability of water will be more effective if accompanied by a campaign to educate the poor on the benefits of "clean" water.

Human Waste Disposal

5.34 Human wastes are disposed of in a variety of ways in Indonesian cities, most of which are unhealthy. The improper disposal of human waste can lead to severe effects upon human health, especially in crowded and congested areas as found in most Indonesian cities. A recent study of water quality issues in Java found that the most excessive pollutant was human excreta as indicated by fecal coliform, which in places exceeds conventional standards by 1,000 times and more.^{16/} In 1988, 70% of urban households reported using a flush water closet for defecation with only 17% indicating that no sanitation facilities were used (see Table 5.7). However, it is reasonable to assume that this is an upper bound on the percentage of the

Table 5.7: TYPE OF SANITATION FACILITY: URBAN HOUSEHOLDS-1988
(%)

	Poor	Nonpoor	Total
Flush water	55.0	75.4	70.0
Open pit latrine	7.6	7.9	7.8
Sanitary block (MCK)	7.1	4.1	4.9
None	30.3	12.7	17.3
<u>Total</u>	<u>100</u>	<u>100</u>	<u>100</u>

Source: Urban Institute and P.T. Hasfarm Dian Konsultan, op. cit.

16/ See, Indonesia: Forest, Land and Water: Issues in Sustainable Development, The World Bank, Report No. 7822-IND, June 5, 1989, p. 106.

urban population with access to proper disposal of human waste.^{17/} As with water, there is a significant disparity between the poor and the nonpoor, with almost one third of poor households indicating that no formal sanitation facilities were used.

5.35 The Government is involved in providing facilities for human waste disposal in three ways. First, the construction of communal wash/toilet facilities (MCKs) as one component of the Kampung Improvement Program in very congested areas. This component has received a low priority within the program, despite apparent needs often due to a lack of suitable space. Indicative of the limited effort made in building MCKs is the fact that only 5% of urban households and 7% of poor urban households reported using this type of facility. Pilot sewerage schemes are also being tried in several urban areas (Jakarta, Bandung, Medan, Cirebon) in Indonesia. However, these schemes typically cover only a small percentage of the population, are prohibitively expensive, and hardly ever are capable of addressing the sanitation needs of the poor. Finally with external assistance, there have been pilot projects based on low-cost sanitation approaches.

5.36 Recent attempts to deliver conventional sewerage systems have encountered installation difficulties and problems in achieving adequate operation and maintenance or appropriate levels of cost recovery. Therefore, a key factor in the Government's ability to provide adequate sanitation, especially for the poor, and to address Indonesia's water pollution problems will be the selection of appropriate, low cost technology, accompanied by funding and delivery arrangements. Since these systems cost about one-tenth that of sewerage systems (that do not reach the poor), the choice of technology has important investment and maintenance implications for the Government. The prevailing perceptions are that these low-cost facilities, limited mainly to public toilet/bathing/laundry facilities (MCKs), are not popular and that most families prefer individual toilet facilities. However in 1988, more than two-thirds of poor urban households use shared facilities outside of the home (see Table 5.8). This indicates that appropriate, well maintained facilities are likely to be used by the poor.

^{17/} These data are derived from questionnaires and are very likely to overstate access to private toilet facilities, both because people tend to be embarrassed to acknowledge using informal facilities such as drains, ditches and canals, and because respondents are generally heads of households and their answers omit the fact that children tend to use less formal facilities.

Table 5.8: HOUSEHOLD TOILET FACILITIES: SHARED VS PRIVATE--1988
(%)

	Poor	Nonpoor	Total
Toilet facility not shared	34.8	76.5	67.6
Toilet facility shared	65.2	23.5	32.4
<u>Total</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
Toilet facility in home	33.2	17.8	20.7
Toilet facility not in home	66.8	81.2	79.3
<u>Total</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Source: Urban Institute and P.T. Hasfarm Dian Konsultan, op. cit.

5.37 An example is the ongoing UNDP pilot project on low-cost technology for human waste disposal in Solo and Semarang. This pilot project used a community-based planning approach to construction and rehabilitation of private, shared or communal sanitation facilities. A total of 213 individual units and 3 public toilets were constructed serving 700 low-income families at an average cost of less than Rp.100,00 per family. Revolving funds were used to finance construction, either through small loans to each family, or for use by a community Sanitation Working Group to employ local small contractors. Full cost recovery is required and repayments are so far being maintained at a high level. The initial results from this pilot suggests that low-income communities are willing to participate in the implementation and funding of a mix of individual, joint and public toilet facilities. As the pilot project indicates, this approach requires development of an appropriate financing mechanism to permit public funds to be used for small scale credits for home improvements. Current DIP grant regulations are unsuitable for this purpose.

5.38 Despite the need for these facilities from both a health and environmental perspective, and the availability of appropriate technology, public expenditures on the sanitation subsector have lagged. Although sewerage expenditures have grown steadily (13% p.a.) and are now about Rp.30 billion p.a. or 4% of the total, this is from a small base, and has had a limited effect on those who are most in need of adequate sanitation facilities. Furthermore, high-cost waterborne sewerage has only limited applicability in Indonesia at this time. Lower-cost, on-site disposal technologies and intermediate technologies hold greater promise, but public expenditures on them are currently low.

5.39 An agenda for REPELITA V. The Government has given greater priority during REPELITA V to the improvement of urban sanitation (human waste and wastewater disposal). Although estimated public investment in the subsector will increase significantly in real terms, a further increase in funding

levels may be necessary to address adequately overall needs. In view of the limited public sector resources, the overall strategy of the Government could seek to provide more and better toilets for poor households with on-site disposal and in making better use of them.

5.40 Accomplishing these objectives during the REPELITA V period will involve the three following components:

- (a) appropriate technologies for large-scale, low-cost programs could be promoted as has been attempted in the UNDP pilot projects. In general, it would appear that in most poor kampung areas a combination of small MCKs (two to four-seat units) and where possible the construction of individual pour-flush toilets and leaching pits are the most appropriate solution. Arrangements for financing operation and maintenance of these sanitation facilities could be strengthened;
- (b) institutional roles and capacities of central, provincial and local governments in promoting sanitation need to be clarified, with the appropriate agencies strengthened to carry out their respective roles; and
- (c) the involvement of the community in the delivery of suitable programs will also be important in gaining acceptance of the facilities, as well as ensuring their proper maintenance and operation.

As with water supply, it will be important to raise the understanding of poor kampung residents of the benefits of sanitary disposal of human waste. Most of the problems outlined above cannot be solved only by Government investment, but health education is also needed. In this regard, there is greater scope for promotional activities within low-income communities, in particular the use of television, radio and other media to emphasize the benefits of proper sanitation practices.

Kampung Improvement Program

5.41 In terms of the human environment in cities, the majority of urban residents (50%-70% depending on city size) live in poorly serviced Kampungs or "urban villages", mainly located close to the city's commercial and industrial centers.^{18/} Although kampungs contain a wide range of income groups, the poor generally suffer the worst living conditions in terms of overcrowding (5%-10% of kampungs depending on city size have densities of 500-800 persons/ha and more) and lesser access to water and sanitation and other key services either publicly or privately provided. The Kampung Improvement Program (KIP), which was originally initiated in Jakarta in 1969, is a nationwide program for upgrading these informal, unplanned and unserved "urban villages", particularly in lower-income communities.

^{18/} As employment has decentralized and transport improved somewhat, kampungs (and new formal housing developments) are now also concentrating in the urban fringe areas where land is more readily available.

5.42 The KIP program provides a range of infrastructure at minimal standards including local roads, footpaths, drainage, water supply, public sanitation facilities and solid waste collection, combined in some instances with social services (schools and health facilities). The program also has direct economic benefits as most materials for the KIP are locally produced and the direct labor input is high. It has been estimated that 560 man-days of direct labor is required per ha in an average kampung to achieve reasonable KIP standards. The program has been financed from numerous sources: Central Government funds, about 50% of the total, through sectoral projects (Ministry of Public Work's KIP PERINTIS) and through grants to local governments (INPRES Dati I); local government's own funds, including borrowing, about 35%; and, foreign assistance from multilateral and bilateral donors for the remaining 15%. Some 7,000 ha of kampungs were upgraded during REPELITA II, increasing to about 12,000 ha during the REPELITA III period. While the program is estimated to have covered about 24,000 ha during REPELITA IV, budgetary reductions limited the components implemented in each KIP village. At the beginning of REPELITA V, more than 300 cities have implemented some form of KIP development, benefitting about six million people.^{19/}

5.43 KIP performance. There have been a number of evaluations of the KIP program, particularly in the late 1970s and early 1980s. These studies indicate that the KIP has generally focused on badly serviced areas with poor environmental conditions in a number of cities. Access, particularly vehicular access and footpaths, has been improved in almost all KIP schemes. Drainage has been improved in most KIP schemes with substantial reductions in flooding. Success in solid waste disposal, maintenance of drains and footpaths, and water supply improvements have been variable. Sanitation improvements have been generally poor. Community support for the physical improvements introduced by the KIP program has been strong. Footpaths are particularly popular; roads less so, especially among the nonmotorized majority of the population. There has been a "stimulus" effect of KIP on private home improvements, which have been found to be twice as high as in nonimproved areas.^{20/} Land values and rents have risen markedly in KIP areas in comparison with unimproved areas. Low rents have risen more than high rents so that the overall distribution of rents has narrowed. However, there has apparently been little out-migration due to excessive rent increases. This has been partly avoided by increased house sharing. Moreover, direct displacement of residents due to physical works has been very low--less than 2% of the population. The relative success of KIP might also be judged from the fact that those local governments that were able, mainly the larger cities, have used their own funds (including substantial borrowing) either directly or in providing matching funds to the GOI stimulus grants to increase the scope and coverage of their KIP efforts.

^{19/} Measurements in terms of people served can be misleading however, as official statistics are based on total service area population irrespective of the degree of infrastructure coverage.

^{20/} It has been estimated that every Rp.1 million invested in KIP encourages an additional Rp.1.9 million in private improvements. See, An Evaluation of Selected Impacts of Jakarta's Kampung Improvement Program, J. Taylor, PhD dissertation, UCLA, 1983.

5.44 The KIP program, therefore, has tremendous potential as a mechanism to address the needs of the lower income urban residents. There is no information available on the economic status of kampungs in which the KIP was implemented, although the KIP program was not limited to "low-income" kampungs. Higher income villages also benefitted from KIP activities.

5.45 In spite of the KIP potential to reach the urban poor, several factors have inhibited its effectiveness. First, public investment in kampung micro-infrastructure has been small, less than 0.25% of annual public expenditures to date. Moreover, levels of funding (mainly central grants) have been declining in relative terms. During REPELITA III, KIP represented about 6% of urban infrastructure expenditures, but during REPELITA IV it declined to only 4% of total expenditures. Second, there has been a tendency to maximize the area covered by the KIP, in spite of the level of funding. Comprehensive servicing at typical standards is estimated to cost about Rp.12-20 million/ha in 1989 prices depending on physical conditions, whereas actual funding in many instances has generally not exceeded the currently available central grants from the PERINTIS (stimulus) KIP amounting to about Rp.2.8 million/ha. Therefore, although the target in terms of the number of cities and hectareage areas is achieved, it was difficult to implement the full range of components.

5.46 Third, community priorities have not always been addressed and expenditures within the KIP have favored roads, footpaths and drainage, with relatively less funding allocated to sanitation, solid waste or water supply. During the REPELITA IV period as cutbacks were necessitated in the program, the human waste and small-scale drainage achievements were less than 25% of targets, and solid waste only 42% of target, while 78% of the target for vehicular access was achieved. Studies have shown that vehicular access tends to benefit the better-off, possibly at the expense of the poor. These data are for the KIP PERINTIS program, so these decisions concerning priorities during REPELITA IV were ultimately Central Government decisions. Fourth, implementation and performance of the various components have been variable. Some high priority investments such as water supply, drainage or solid waste collection did not work well in the absence of commensurate improvements to primary systems outside the kampung. Moreover, O&M has typically been weak where community contributions were not or could not be mobilized and where communities were not actively involved in planning and implementation. This has adversely affected water supply and sanitation infrastructure, in particular.

5.47 And finally, in contrast to the increase in property values generally following KIP implementation, individual and household incomes were reported not to have increased measurably. The absence of appropriate credit mechanisms has also been a major impediment to the stimulus effect of the KIP on home improvements and small-scale enterprise development. The recent successful experience with rural credit systems offers some promise for development of similar schemes in urban areas.

5.48 An agenda for REPELITA V. As the Government recognizes in REPELITA V, needs are still great for basic services, especially as the urban population continues to grow. Many kampungs, mostly new, are yet untouched and many of the earlier, upgraded kampungs are now in need of rehabilitation

or infilling. The Urban Institute survey concluded that more than 50% of poor households have inadequate infrastructure quality, measured in terms of access to proper sanitation, clean water supply and lighting; about one third of other households also had inadequate infrastructure. As a result of these factors, the KIP remains a high-priority, poverty-alleviation expenditure for the Government during REPELITA V.

5.49 In designing the program for REPELITA V, the Government is taking steps to revitalize the KIP program and correct for past weaknesses. This revitalized KIP could contain three components.

- (a) The traditional KIP infrastructure of roads, footpaths, drainage, waste disposal and water supply would continue to be the mainstays of the KIP. However, through close consultation with the communities concerned, it is expected that new road construction would be minimized and small footpaths and micro-drainage extended to reach less accessible (and usually poorer) areas of the kampung. The water supply networks would be expanded to provide water to a greater number of public standpipes and group family toilets, as well as increasing the number of individual household connections in collaboration with sectoral programs where available. Much greater attention would need to be given to sanitation and solid waste disposal, raising significantly the proportion of expenditures devoted to these components. A greater effect will be achieved by preceding implementation with an intensive campaign of health education. One possibility, which could be considered, is the formation of user's associations to help ensure effective operation and maintenance and adequate cost recovery for public toilets. Experience with user associations gained with the UNDP-assisted project in Semarang and Surakarta yielded a demand for these facilities and willingness to take up and pay loans for construction materials.
- (b) More community participation in facilities planning, construction, monitoring and operations and maintenance would help ensure an effective program. Community interest and commitment to the KIP program will be heightened if each community is allowed to select components which are high priority and relevant to local needs. A menu (range) of subcomponents, but with a core program of basic infrastructure and services, could be presented to each community prior to KIP implementation. This approach is perceived as fundamental for community acceptance of the services, and in order for the community's to fulfill its responsibilities for operations and maintenance.
- (c) Experimentation could also be undertaken with economic development components. Two types of small-scale credit schemes may be appropriate: (i) home materials loans (HML); and (ii) income generating loans. There appears to be strong demand for a home material's loan program which would permit individual households to take up cash loans to purchase building materials in order to improve their homes. Access to small informal business and employment loans

has also been a problem for small entrepreneurs and could help spur economic activities. Small business and the potential for development proliferate in Indonesian kampungs and can make a contribution to employment generation among the poor. As discussed in Chapter II, these small-scale credit schemes need to focus on providing access to credit through existing financial institutions, and not on directed, subsidized credit.

Government Housing Programs and the Poor

5.50 Introduction. The basic policy framework for housing established in 1974 was that the Kampung Improvement Program (KIP) would address the need for shelter-related services for those urban households below the 20th percentile, and the Government would build or provide mortgage financing for housing aimed at households between the 20th and the 80th percentile of the urban income distribution (equivalent to monthly incomes of about Rp.90,000 and Rp.200,000 respectively in 1988). The Government's first policy initiatives in the housing sector were the establishment of the National Urban Development Corporation (PERUMNAS) to produce low-cost housing, the National Housing Policy Board (BKPN) to coordinate housing policy, and a homeownership financing program (KPR) for purchasers of PERUMNAS housing, through the State Savings and Housing Bank (Bank Tabungan Negara or BTN). Since these institutions and policies were established, governmental housing policies and programs have evolved from a relatively marginal activity to an important component of social policy.

5.51 In general terms, PERUMNAS housing was aimed at households below the median income and the privately built units financed by BTN catered to the needs of those above the median income. In accordance with Government policy, BTN initially provided mortgage loans for up to 90-95% of the value of housing units at highly concessionary interest rates ranging from 5-9% over a 5-20 year term. As a result of these policies, the interest rate subsidies implied by BTN's lending terms were not closely targeted to the lowest income groups. From the outset, a wide range of income groups has had access to subsidized mortgage finance. In fact, a recent study found that the median household income in 1988 for households currently residing in BTN-financed, privately developed units was Rp.325,000; residents in PERUMNAS, BTN-financed housing was Rp.235,000; and, the median household income for all urban homeowners was Rp.160,000.^{21/} Moreover, it was found that nearly 71% of PERUMNAS units and 49% of BTN-financed units are currently occupied by households headed by Government employees, compared to 19% of all urban households headed by

^{21/} See, "Post-Occupancy Evaluation of BTN-Financed Housing," Housing Policy Studies Project, Interim Report, Urban Institute and P.T. Hasfarm Dian Konsultan. This comparison is for households currently living in BTN-financed homes. These households may or may not be the original occupants of these homes. Furthermore, if they are the original occupants, these incomes could be substantially higher than when the mortgage finance was obtained. Nevertheless, these incomes are illustrative of the types of units and households financed by BTN.

Government employees. Since average civil servant compensation was estimated at Rp.184,000 in 1988/89, the majority of subsidies from BTN mortgages are likely to be accruing to households in the 50th percentile or above of the urban income distribution.

5.52 Although PERUMNAS expanded its low-cost housing program considerably during REPELITA III and the early years of REPELITA IV, BTN mortgage lending for privately constructed units increased much more rapidly, in response to the strong demand for housing finance generated by developers building highly profitable larger units. Hence, BTN funds were increasingly directed towards a narrower segment of the housing market (i.e., those with incomes above the median).

5.53 Recent reforms. In 1985, the Government took several policy initiatives designed to redirect BTN mortgage finance to lower income groups. These measures included: (i) an upward revision of mortgage lending rates to a range of 9-15%, implying significantly lower interest rate subsidies; (ii) raising downpayment requirements to 10-40% of house values; (iii) the explicit redirection of BTN's lending program for the remaining three years of REPELITA IV towards smaller mortgage loans affordable by lower and middle-income groups; (iv) the introduction of a fully blended system of funding which limits low cost government funds for BTN and encourages BTN to mobilize nongovernment resources; (v) giving developers other than PERUMNAS permission to build house types below 36 m²; and (vi) providing wider access to government-supported housing to any person whose income is below the prescribed ceiling (Rp.300,000 per month) without restrictions based on occupational status.

5.54 These policy changes resulted in a significant expansion of housing supply at lower cost. The private sector share of the Government's housing program increased from 53% in the early years of REPELITA IV to 75% in the last year. It also led to higher efficiency in the private sector and a willingness to produce about 25,000 additional units (an increase of 8% over the original plan). Moreover, the average cost per unit of housing provided declined by 13%. The financing of these houses continued to be at subsidized interest rates through the Government's housing bank (BTN), but the rate of subsidy has declined.

5.55 The reduction in the subsidy and the increased production of smaller houses are likely to have led to better access of lower income groups to interest rate subsidies through BTN, since the evidence does suggest that smaller units tend to be occupied by households with lower incomes. However, the bulk of the subsidies still do not accrue to poor urban households. These interest rate subsidies on BTN-financed mortgages do, however, account for a significant portion of public resources. The present value of BTN subsidies in 1987 have been estimated to be roughly Rp.118 billion. In comparison, the combined expenditures of central and local governments during 1987/88 on the KIP, which is supposed to serve the poorest segment of the urban population, was only Rp.37.5 billion.22/

22/ See, "Post-Occupancy Evaluation of BTN-Financed Housing", op. cit., p. 31.

5.56 The evidence from other developing countries also indicates that housing finance systems do not effectively reach the broad masses of the urban poor nor do Government housing programs.^{23/} Indonesia's urban poor shelter themselves about equally between renting, about 52%, and home ownership, about 46% (see Table 5.9). Of those who own their home, about two-thirds are "secure" owners and the remaining have little security of tenure.^{24/} To assist the poor who do own their own home, the Government needs to ease zoning and land regulations, as well as assist lower income groups in improving the security of their tenure.

Table 5.9: TENURE STATUS OF URBAN HOUSEHOLDS, 1988
(%)

	Poor	Nonpoor	Total
Secure owner	31.9	46.8	42.9
Other owner	14.3	11.3	12.1
Unit renter	17.5	19.6	19.0
Rent-free renter	18.2	12.0	13.6
Room renter	16.5	4.2	7.5
Other	1.6	6.1	4.9
<u>Total</u>	<u>100</u>	<u>100</u>	<u>100</u>

Source: Urban Institute and P. T. Hasfarm Dian Konsultan, op. cit.

5.57 The regulatory environment. The streamlining of land titling and registration procedures will play an important role in stimulating investment in housing. Currently, the monetary and time cost of registering and titling land is a significant constraint preventing the poor from obtaining a legal title to the land. While the poor in urban Indonesia enjoy a higher level of security of tenure than the urban poor in many other countries and the number of "pure" squatters is estimated to be less than 5%,^{25/} urban development can still result in a displacement of poor settlements, leading to a significant loss of housing investments and limiting the willingness of the urban poor to upgrade their housing structures.

^{23/} See, Report of the Task Force on Poverty Alleviation, The World Bank, June 1988, Volume I, Annex II.

^{24/} Only about 5% of Indonesia's urban poor use loans for financing home ownership; in fact, only about 9% of all urban households use loan finance for homeownership. Given the scarcity of loan finance, it will be extremely difficult to target mortgage finance, especially subsidized finance, to lower income groups.

^{25/} See, "Housing Supply in Indonesia", Michael L. Hoffman, Housing Policy Studies Project, The Urban Institute and P. T. Hasfarm Dian Konsultan, February 1988.

5.58 Minimum standards, zoning regulations, and maximum densities established by local governments also result in costs which fall disproportionately upon the poor. For example, minimum plot size regulations increase the costs of housing to households who may have opted for smaller sizes. In the Jakarta area, the minimum legal standards for a dwelling unit result in a minimum cost of Rp.4 million per unit. Through fixing these minimum standards, the law establishes implicitly a minimum income below which households have to obtain shelter "illegally" through the informal sector. Zoning regulations, which artificially designate areas as residential/nonresidential or set densities, can result in infrastructure provision inconsistent with settlement patterns or densities. This may lead to a level of urban services inadequate for population levels; this affects the poorer kampungs relatively more due to their higher densities.

5.59 An agenda for REPELITA V. During the REPELITA V period, the Government is making a renewed effort to target housing expenditures and in particular, subsidies more effectively to the poor. Several initiatives will serve to improve the effect of these programs on lower income groups. First, consideration could be given to expanding the range of housing products to make them more affordable and accessible to lower income groups. Currently, the lowest cost product remains the 15 m² core house on a 60 m² plot. Experimentation with other options such as serviced plots, as currently planned during the REPELITA V period, is an important step in this direction. Second, Government financing of low-cost/low-income rental housing would assist the poor who rent their accommodations in Indonesia. Third, while recent reforms to the Government's program of subsidized, directed credits have further reduced interest rate subsidies, implementation of the Government's policy to eliminate these subsidies is still important as they are not well targeted to the poor. To reach the poor, the budgetary savings could be allocated to the KIP program, which can be better targeted on low-income households. If it remains necessary to provide a subsidy, the use of more transparent and better targeted mechanisms, such as direct grants to beneficiaries, would be more appropriate. Finally, changes in the regulatory environment affecting the housing sector, such as improving land administration to lower land costs and adopting appropriate design and construction standards, will also serve to lower barriers facing the poor.

VI. DEVELOPING AN INSTITUTIONAL FRAMEWORK FOR POVERTY REDUCTION

A. Overview

6.1 This report has discussed a number of critical areas for designing and implementing an appropriate poverty reduction strategy for the 1990s. Because the causes and consequences of poverty are multidimensional, these poverty reduction programs are by nature intersectoral. For example: improving the health status of the poor in rural areas will require a combination of health services (both preventive and curative) and basic services, such as rural water supply and sanitation; and implementing area development projects in poor areas will involve a combination of roads, storage facilities, agricultural projects as well as social and basic services. Planning, implementing, and supervising these types of activities requires building a more deliberate focus on poverty at all levels of Government. Increasing the efficiency of these programs and reaching the poor, who may be illiterate or in isolated locations, also implies that community self-help groups take a greater role in helping the Government with its antipoverty programs. The institutional areas that are discussed in this Chapter are: (i) the establishment of a focal point in BAPPENAS to oversee and coordinate the Government's poverty programs; (ii) institution building in the line agencies in order to ensure that ongoing development programs reach the poor more effectively; (iii) enhancing the effectiveness of local-level Government officials, since the implementation of many programs will be their responsibility; and (iv) a larger role for community self-help groups, village cooperatives and NGOs in the Government's antipoverty programs.

B. Government Institutions

6.2 Given that the causes and consequences of poverty are multidimensional, antipoverty programs are by nature intersectoral. Formulating and implementing these programs necessarily entails the active involvement of many individual ministries, government agencies, local-level governments, and community groups. The international experience with rural development in general and poverty reduction programs in particular, as well as the World Bank's experience in rural development projects, shows that coordination is among the most difficult of government functions. Minimizing the need for coordination should, therefore, be an explicit objective in poverty work. Poverty reduction strategies need to be sensitive to the risk of intersectoral coordination failing by undertaking ex-ante planning that minimizes the need for coordination during implementation. Thus, activities can be planned in advance, responsibilities assigned and resources allocated to the relevant line agencies. During implementation, these line agencies could then carry out their tasks for the most part without having to coordinate with other agencies. The coordinating agency could then monitor and evaluate progress, but not intervene in operations.

6.3 This ex-ante planning role and coordination of other agencies and groups could be achieved by establishing a focal point for poverty programs in BAPPENAS. To some extent, it is already performing this role, as indicated by the poverty reduction initiatives discussed in Chapter II. However, with the existing institutional arrangements within BAPPENAS, antipoverty programs are distributed under several deputies: Regional Development (with primary responsibility for area development projects and INPRES funding), Social and Cultural Affairs (with primary responsibility for social and other basic services), Human and Natural Resources Development (with primary responsibility for employment generating initiatives and the environment); and Economic Affairs (for agricultural programs and policies). Many programs outlined in REPELITA V and recommended in this report naturally cut across these areas. Therefore, coordinating these activities and liaising with other agencies may require establishing a focal point. Recently, a Steering Committee of relevant staff from BAPPENAS and other line agencies was formed to assist the Government in planning and implementing its integrated area development programs. This is a positive development which could help to avoid the types of problems which have been typically encountered in implementing rural development projects.

6.4 Establishing such a focal point for poverty reduction, similar in structure to the Steering Committee recently formed, would help ensure that the ex-ante planning function is fully carried out in order to avoid implementation difficulties. Such a coordinated effort is required in order:

- (a) to identify the poor in order to target effectively any poverty initiatives which are undertaken;
- (b) to develop and refine a strategy for poverty reduction, drawing upon the rich experience already available in Indonesia (from various initiatives of the Government and cooperative groups) as well as other countries;
- (c) to provide technical assistance to line agencies and the lower levels of government in revising their sectoral programs to enhance their poverty content; and
- (d) to guide the poverty-oriented activities of various multilateral and bilateral agencies.

6.5 In identifying the poor, additional knowledge of the location, characteristics, and needs of the poor is the first step in better targeting programs. Further primary data collection in conjunction with BPS may be required to pinpoint more precisely pockets of poverty, since the available data do not permit a robust disaggregation below the provincial level. District and subdistrict data will be important, especially for the design of rural development programs, and relief efforts. This may require additional survey work.

6.6 A focal point is also necessary to monitor the performance of poverty programs, particularly small pilot schemes. Many innovative pilot schemes have been implemented in Indonesia and other countries over the last decade; some have been successful, some not. This review could include programs

implemented by community groups and NGOs, as well as Government programs. A focal point is also required to advocate poverty programs to the line agencies, as well as ensure that the activities of the various line agencies are complimentary.

6.7 Finally, a number of multilateral and bilateral agencies are actively involved in poverty programs. UNICEF has a long-standing relationship with the Government in establishing, implementing and monitoring poverty programs, particularly in the areas of child and maternal health and water supply and sanitation. The UNDP has recently established a "task force" of international agencies and government departments to address poverty issues. Some multilateral agencies--the World Bank, IFAD, and the Asian Development Bank--are identifying poverty projects to support the Government's antipoverty effort. In addition, a number of bilateral agencies are actively funding programs in critical areas, such as rural water supply and sanitation and nutrition. These multifarious activities also need to be coordinated and fully incorporated into the Government's overall efforts. The assignment of a focal point in BAPPENAS would provide both a natural counterpart to these activities, as well as a mechanism for coordination.

6.8 The majority of the effort in designing, implementing and monitoring an expanded antipoverty effort will be borne by the individual line agencies and lower level governments. Instilling a commitment towards poverty reduction throughout these agencies will, therefore, be critical to the success of the Government's strategy. In this area much work remains to be done. The mission noted that, while central agencies are committed to a renewed effort at poverty reduction and this is echoed strongly in REPELITA V, there is less commitment and understanding of this goal in other parts of the Government. To some extent this is understandable, as line agencies and local governments are implementing sectoral programs and policies, some aspects of which may involve different priorities. However for the program proposed in REPELITA V to be successful, the full cooperation and commitment of line agencies and local governments will be necessary. Strong signals from the core agencies, particularly BAPPENAS, will be important in this regard.

6.9 Within the line ministries, there is much to do to extend the outreach of ongoing programs and possibly identify new programs specifically targeted at the poor. In many instances, this will require the revision of existing programs, alternative financing mechanisms, and the adoption of innovative low-cost technology. For example in the Ministry of Public Works, new responsibilities for the hardware aspects of rural water supply and sanitation will require a reorientation of technicians towards low cost and simple technology for poor communities. Also, staff training in low-cost, appropriate technology may be required before the RWSS program can be successful. In agriculture, a particular need is to expand services to those farmers, mainly the poor, who have not had the opportunity to benefit from past programs; this will entail broadening the ambit of research and extension into secondary crops, where the experience of researchers and extension officers is quite limited. Similarly for tree crops, developing a program to reach the mass of unassisted smallholders through the provision of a widespread network of nurseries and technical advice will require a major change in the organization and delivery of tree crop support services. There

may also be a need to resolve conflicts which arise between poverty reduction and other sectoral objectives. These functions will require strengthening of institutional support for poverty programs in the relevant line agencies.

6.10 As discussed in the preceding Chapters of this report, the information on the needs of the poor and on service delivery to the poor is very limited. For sectoral antipoverty programs to be effective, information needs to be collected and analyzed. There are numerous potential sources of this information. The SUSENAS survey is one. But, there needs to be more interaction between planners in the line agencies and the Central Bureau of Statistics to ensure that the data collected are relevant to the design of sectoral policies and programs.^{1/} Other special surveys financed by donors or through project loans can also be used for this purpose. Assisting in the design, implementation and analysis of these surveys and incorporating the findings of this analysis into program design is an important function of the line agencies.

6.11 Similarly, local governments need to be active contributors to the poverty reduction program. Local governments are at the front line of the attack on poverty. Local governments have the best knowledge of who the poor are, and what their needs are. Local government officials are, therefore, the critical link between the plans and concerns of the Central Government and the poor. While numerous training programs already exist for local level officials, there appears to remain a need, however, for additional training on the assessment and alleviation of poverty. Local government officials have little knowledge of activities in other areas. Training courses on the lessons learned from the numerous pilot programs in other areas need to be developed and disseminated widely. As the competence of local governments is positively correlated with income levels, institutional strengthening needs to be concentrated in relatively poorer areas. This would be a natural complement to increased sectoral programs in these areas. Furthermore, the Central Government could consider providing additional financial resources to those local governments which develop and implement effective poverty programs. This would encourage the innovation and initiative, which are vital to sustaining the momentum of poverty reduction programs.

C. The Role of Community Groups in Poverty Programs

6.12 This report has identified a number of areas where community groups could play a larger role in the design and implementation of poverty programs. Due to their flexibility and knowledge of the community, such groups can in

^{1/} The analysis of the education, health and nutrition module of the 1987 SUSENAS for this report highlighted a number of areas where inadequate survey design limited the usefulness of the data for designing sectoral programs. For example, the question on distance to a health facility was asked only of those who actually sought treatment, not all survey respondents, obviously precluding a complete analysis of the accessibility of health facilities.

many instances reach the poor more effectively than large Government programs. Moreover, the active involvement of these groups in Government programs tends to increase village acceptance of government programs and thus, increase participation. Involvement of community groups can also ease the financial and staff costs of implementing labor-intensive poverty programs. This last section describes the multitude of community groups in Indonesia, highlights a few of their contributions to national development, and suggests several approaches to enhance their engagement in Government poverty programs.

Community Organizations in Indonesia

6.13 The plethora of community organizations^{2/} in Indonesia can be divided into four categories:

- (a) LSM (Lembaga Swadaya Masyarakat), that is, community self-help organizations such as village-level precooperatives;
- (b) LPSM (Lembaga Pembina Swadaya Masyarakat), that is, agencies that promote self-help groups;
- (c) other community-service and social organizations; and
- (d) semigovernmental organizations.

The characteristics and functions of organizations in each category are briefly discussed below.

6.14 Community self-help organizations. There are many traditional groups at the village level: mosque committees, rudimentary cooperative savings groups (such as arisan), and reciprocal work arrangements and traditions (such as gotong royong). There are also a scattering of formal organizations that are not subsidiary to the official village structures: some water users' associations, for example, or LPSM-organized cooperatives. Finally, there are a growing number of government-sponsored village-level groups. These are often promoted by local volunteers (kaders). Local family planning groups and nonformal education groups have both proven effective in reaching the poor with social services and income-generating programs. The number of officially-promoted groups is difficult to judge, as one group may draw resources from and be counted by various sectoral ministries.

6.15 Agencies that promote self-help. There are over two hundred private Indonesian LPSMs, including networks. Most Indonesian LPSMs started in the 1970s or 1980s. The biggest has only about 250 staff members, which is small in comparison to local NGOs in some other Asian countries.^{3/} The LPSMs are

^{2/} What are here called community organizations are called "nongovernmental organizations (NGOs)" in many countries. "LSM" and "LPSM" are a uniquely Indonesian terminology.

^{3/} For example, BRAC in Bangladesh has 6,000 staff.

diverse in orientation: some are religious groups and some are technically oriented. They have also focused on diverse aspects of development: cooperatives, grassroots institutions, appropriate technology, environment, and poverty. However, the majority of their activities are to stimulate greater community participation in Indonesian development.

6.16 Some industrial-country NGOs provide financial and technical support to Indonesian LPSMs. Key donors include the Ford Foundation and Asia Foundation (from the United States), the Friedrich Neumann Foundation (Germany), NOVIB and ICCO (Holland). Most of such donor NGOs in turn receive some funding from their own governments, and a few bilateral agencies (notably USAID, CIDA, and Switzerland) also fund Indonesian LPSMs directly. A number of industrial-country NGOs, mainly North American groups, administer their own programs in Indonesia, sometimes in cooperation with the Government. For example, CARE works with the Ministry of Home Affairs in the provision of village water supply. Project Concern International, a US group, is working with provincial officials in Southeast Sulawesi to improve the effectiveness of the POSYANDU system and other health services.

6.17 The data in Table 6.1 are provisional, but give a rough sense of the total level of foreign NGO funding. These data indicate that foreign funding has declined from the early 1980s.^{4/} Some donors feel that key LPSMs have overextended themselves recently and may thus have reduced their funding of community groups in Indonesia somewhat. But there are intensive efforts under way, by LPSMs and their donors, to strengthen LPSMs institutionally, and the trend in foreign funding available to community organizations is likely to be upward.

Table 6.1: ESTIMATES OF FOREIGN FUNDING FOR COMMUNITY ORGANIZATIONS

	1983	1984	1985	1986	1987
Foreign funding (in US\$ million)	93	91	69	81	63
Foreign personnel	360	574	413	431	449

Source: State Secretariat, preliminary estimates.

^{4/} These data should be used with caution, however, as UNDP estimates of NGO technical assistance funding in 1987 indicates a rise over 1986.

6.18 Other community-service and social organizations. The Indonesian LPSMs and industrial-country NGOs are complemented by a much wider array of nongovernmental institutions. These include religious institutions, university-related institutions, local foundations, and associations. The most extensive of these are religious institutions. There are myriad Moslem institutions, many of which are actively involved in development activities. For example, the evolution of Indonesia's estimated 6,000 pesantren seems to be a development success story. In the 1960s, an LPSM called LP3ES (with funding from the Friedrich Neumann Foundation) began to help pesantren engage in community development activities. LP3ES and others succeeded in introducing new elements into the curricula of some pesantren (instruction in agricultural methods, for example). Some 300-400 pesantren now have community development outreach activities, especially for the rural poor. Christian churches also provide social services on a significant scale; church-related development activities are especially important in several of the Outer Islands.

6.19 Universities also contribute. All university students must spend two months in a village doing community development work, and this program (called KKN) is administered by the universities. Many private universities are administered as foundations (yayasans), and public universities often establish yayasans (institutes of social research, for example). Finally, various professional and interest groups maintain associations. The Tuberculosis Association used to concentrate on public information, but cutbacks in the official health budget have led the Association to get involved in service delivery too. Youth and hiking groups have added strength to Indonesia's environmental movement.

6.20 Semigovernmental organizations. At the end of the 1970s, the Government recognized the need for greater community participation in development and activated two semigovernmental organizations, the LKMD and PKK. The LKMD (Village Community Resilience Institution) is an official community development forum. The PKK (Family Welfare Movement) is a nationwide women's organization, which serves at the local level as the women's auxiliary to the LKMD. The LKMD and PKK are intended to help village leaders mobilize the population to take part in government programs and are currently serving as the basic units for "bottom-up planning." Each LKMD is chaired by the village headman and includes other village leaders. The PKK is chaired by the headman's wife. At the district, provincial, and national level, the PKK is chaired by the wife of the highest-ranking officer in the Ministry of Home Affairs.

6.21 It is a substantial achievement that the LKMD and PKK can be found in at least rudimentary form in virtually every Indonesian village. The PKK estimates its membership as two million nationwide. In many villages, the LKMD and PKK do significant work. During the 1980s, numerous Government programs have been launched that depend on village kaders, normally members of the PKK. An anthropological study of kaders in five villages found that many of them spend as much as 20 hours a week in community activities, at considerable cost in terms of lost income and time away from household work. The quality of the services performed by the LKMD and PKK varies considerably from area to area. Similar to some official programs, the LKMD and PKK are weakest in relatively remote and poor areas where they are needed most. Thus,

any efforts to strengthen Government programs in poor areas would need to include a component to also strengthen the LKMD and PKK, if they are involved in service delivery.

6.22 Indonesia has a uniquely strong tradition of women's associations, now dominated by the PKK, Dharma Pertiwi (military wives), and Dharma Wanita (wives of civil servants). The national council of women's associations (KOWANI) includes 64 women's associations. These associations serve a number of functions, including development work.

6.23 Village cooperatives are aggregated together into one KUD (Koperasi Unit Desa). These KUDs serve as middlemen in the marketing of agricultural inputs and rural credit provision. However, only a small proportion of KUDs are self-sufficient and financially sound.^{5/} In addition, there is some question about to what extent the KUDs benefit lower income groups.^{6/} REPELITA V envisions a growing role and increasing independence for KUDs. Current plans aim to encourage independence among cooperatives mainly through additional training of cooperative managers. Over the long run, the subsidies and special treatments accorded to the KUDs need to be reviewed.

6.24 In aggregate, there is a significant involvement of community groups in Indonesia. A joint study by the Ministry of Home Affairs and a NGO of community participation in 12 villages of Java found that about half of those interviewed actively participated in LKMD, PKK, or other semigovernmental activities. About a third were involved in more strictly governmental programs (KUD, an official development project, family planning, agricultural extension, etc.). About a third said they were involved in an NGO activity (a self-help group, voluntary social organization, irrigation association, etc.). There was probably much overlap, with less participation among lower-income families.

Role of Community Groups in Existing Development Programs

6.25 Community groups have been actively participating with the Government in a number of development programs. Government officials have realized that many projects can be wasteful and ineffectual without the involvement of the community, and the fiscal constraints of the 1980s have provided an additional impetus in seeking greater community participation. LPSMs have long worked more closely with Government agencies in Indonesia than do NGOs in many developing countries. The paragraphs below describe how community groups are assisting the Government in the implementation of development activities in family planning, health, irrigation, and the KIP; these are all programs which figure prominently in a poverty reduction strategy, as discussed in the preceding Chapters.

^{5/} See, Indonesia: Rural Credit Sector Review, *op.cit.*, Annex 6, p.4.

^{6/} See, Rural Indonesia: Socio-Economic Development in a Changing Environment, IFAD Report No. 0055-IND, May 1988, p.248.

6.26 Family planning. The Indonesia Family Planning Association advocated family planning and provided some services long before family planning became official policy. In the late 1960s, the Government's family planning program (BKKBN) was launched by a semigovernmental agency which included the Family Planning Association; the Association initially trained several thousand official family-planning workers. Collaborating with religious groups has been a key reason for the success of the Government's family planning program. Women's associations have also played an important role.

6.27 BKKBN now dominates Indonesia's family planning efforts. Community groups serve a small percentage of family planning acceptors; estimates range up to only 10%. But BKKBN has consistently promoted family-planning groups, sometimes with grant funding. These groups have assisted in service provision and the testing of innovative approaches. For example, when BKKBN discovered that the proportion of acceptors was lower in cities than in rural areas, it encouraged several NGOs to study the problem and then try out new approaches (better and more personalized services, charging for services, longer hours of operation). The initiative of these groups has been an important element of the Government's recent success in raising the percentage of acceptors in urban areas. BKKBN has also worked with LPSMs that are not primarily dedicated to family planning; it has, for example, relied on a NGO to help design and provide training for BKKBN staff to introduce income-generating activities into family-planning acceptor groups.

6.28 Health. In the health sector, the PKK has mobilized local volunteers to assist in the operation of the POSYANDUs. The PKK, too, has turned to LPSMs to help train its leadership and kaders. Furthermore, in 1986 UNICEF and the Ministry of Religious Affairs invited 12 religious women's organizations (Moslem, Christian, and Hindu) to share child-survival information with their members. UNICEF helped prepare separate training booklets about child survival for each of these groups, so that the message was relevant to each religious group. By January 1988, the groups together had reached some 7 million women with basic child-survival information at a cost of US\$0.10 per woman. Preliminary indications are that the program has substantially increased attendance at POSYANDUs, and UNICEF is planning an evaluation through PUSKESMAS doctors.

6.29 Irrigation. Traditional irrigation systems were often managed by local organizations of farmers. But the dramatic expansion and improvement of irrigation over the last two decades weakened these water users' groups, with Public Works officials assuming more responsibility for the design, operation, and maintenance of irrigation systems. In many cases, irrigation engineers tend to be somewhat insensitive to farmers' needs and suggestions. Also, farmers have come to look to government officials to pay for, operate, and maintain irrigation systems. But because of the expansion of the system, Public Works officials were not able to operate and maintain all parts of the system, particularly at the tertiary level.

6.30 In 1981, the Ford Foundation began financing research on this issue by universities and a NGO. Experimentation was also undertaken by a NGO with the strengthening of water users' associations. This action research demonstrated that farmers could maintain and improve small-scale irrigation systems. This effort involved the Ministry of Public Works at an early stage

and helped to promote a learning process among officials in which the NGO played a significant role. This culminated in a 1986 Government decision to turn over all irrigation systems smaller than 500 ha to water users' associations.^{7/} This will be one of the most important delegations of responsibility to rural citizens since the New Order was established. Full implementation of this policy still requires the resolution of a number of issues, including the status of the water users' associations that are to assume responsibility for small irrigation systems.

6.31 Urban development. A study of the Kampung Improvement Program in Surabaya documents the beginnings of Indonesia's KIP at the end of the 1960s.^{8/} Initially, community associations played a large role, covering much of the cost themselves and soliciting assistance for specific projects from officials. During the mid-1970s, the pace of kampung improvement was increased, but community participation was limited mainly to LKMD approval of plans. UNDP then experimented with participatory improvement projects in Semarang and Surakarta, and this approach is now also being introduced in Jakarta. LPSMs are involved in the planning and in helping to stimulate community participation and improve the functioning of LKMD. Kampung improvement is now focusing on those aspects of neighborhood development in which community participation is crucial: home improvement, latrines, and health.

Enhancing the Role of Community Groups in Poverty Programs

6.32 In the past, official policy toward community groups was very cautious. But as discussed above, community participation has come to feature more prominently in Government thinking. The development of the LKMD and the PKK in the 1980s has been intended to elicit broader and more active social participation in development. Meetings and consultative mechanisms between officials and LPSMs have become increasingly frequent. The Guidelines for State Policy (GBHN) and REPELITA V both stress the need for greater community participation in development.

6.33 There are several ways in which community groups can contribute to official poverty reduction programs.^{9/} First, LPSMs and other community groups can increase the poor's participation in poverty programs. Many of the poor are illiterate or live in isolated areas, so the job of reaching the poor and educating them about existing Government programs is a difficult task. Community groups can be encouraged to mobilize the poor and thereby help them

^{7/} This policy is being supported under the World Bank's Irrigation Subsector Loan.

^{8/} See Johan Silas, "Community Participation and Urban Development" (prepared for the Asian seminar on Community Participation organized by APDC/EDI/UNCRD, Kuala Lumpur, 9 July 1988).

^{9/} For a fuller discussion, see Samuel Paul, "Poverty Alleviation and Participation: The Case for Government-Grassroots Agency Collaboration," Economic and Political Weekly, January 14, 1989.

to benefit more from poverty programs. Second, community groups can be involved in the planning and delivery of poverty programs. Examples of this are PKK involvement in POSYANDUs and the community participation component of the KIP currently envisioned during the REPELITA V period. Moreover, the Government is planning to delegate responsibility for implementing a water supply project under a World Bank loan to a leading NGO. This would represent a major step in allowing these groups more participation in the development process. Third, community groups can monitor the implementation and effectiveness of Government development programs. Recently, a leading NGO has been assisting the Government in monitoring the results of the expanded standpipe program, discussed in the previous Chapter. Finally, the Government can draw upon the initiatives of community groups to develop a national program. Frequently, LPSMs will develop an effective approach for assisting the poor and test it on a small scale. The Government can learn from the experience and support replication of the program on a wider scale. A recent USAID study lists 20 lines of development activity in which community groups in Indonesia have helped to develop innovations.

6.34 The Government could consider several initiatives during the REPELITA V period to foster community participation in the design and delivery of its poverty reduction programs, thereby enhancing their effectiveness and expanding their reach.

- (a) Most important would be steps to allow LPSMs more scope for initiative. Although key high-level officials appreciate many LPSM contributions, there is less receptivity at the provincial and local levels. Government staff, especially Ministry of Home Affairs officials at provincial and local levels, could be encouraged to learn about the activities of community groups within their areas. Meetings at the provincial level would broaden official understanding of LPSMs and might also be an opportunity to share information and improve LPSM understanding of official perspectives and plans. One or two national-level LPSMs might be engaged by GOI to help provincial officials plan such meetings, to enhance the effectiveness of these contacts.
- (b) As advocated in REPELITA V, the Government will continue to strengthen the LKMD and PKK as they are performing important functions in the delivery of a number of social services. This process was facilitated in the 1990/91 Budget when funding for the PKK was increased substantially. Efforts and experiments are also already under way to make LKMD and PKK more participatory. For the purpose of poverty reduction, it is especially important to strengthen the LKMD and PKK in remote, lower-income parts of Indonesia. LPSMs might be contracted to help in this process. There is also a promising new initiative being developed by the PKK to reach families in extreme poverty by organizing village women into groups of 10-20. Kaders would be asked to identify the neediest families represented in each of these groups and to help them get appropriate assistance.

- (c) Various Government agencies have been expanding their use of LPSMs as consultants for training and assistance on the community development aspects of official programs. Future expansion of foreign funding for Indonesian LPSMs could help Government achieve its poverty reduction objectives. The Government itself might find grants to LPSMs an effective approach in certain sectors or provinces. But in other situations, Government grant funding to LPSMs might work against the tentative trend toward greater community initiative.

6.35 The Government and donors need to be realistic about the role that community groups can play in poverty reduction programs. LPSMs are very small in Indonesia. Their geographical coverage is uneven, and they are weak in some of the areas characterized by a high incidence of poverty. Some LPSMs, especially local groups, suffer from the same problems as many local governments: a lack of management skills, qualified staff, and equipment and facilities. LPSMs and semigovernmental organizations cannot substitute for key Government services; for example, the POSYANDU program has clearly suffered in some areas from too little logistical support from the Government's own health staff. But at the margin, community groups can have a positive effect on reaching the poor and improving the efficiency of Government programs.

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POVERTY ASSESSMENT AND STRATEGY REPORT

The National Socioeconomic Survey (SUSENAS)

Introduction

1. The Central Bureau of Statistics (CBS) has conducted periodically, since 1963/64, a National Socioeconomic Survey; it is generally referred to as the SUSENAS, which is the abbreviation for the Indonesian title, Survey Sosial Ekonomi Nasional.1/ The SUSENAS is a household consumption survey rather than an expenditure survey. It provides detailed household expenditure data for both food and nonfood items and for food items, data on quantities consumed. This is an advantage over the expenditure surveys carried out in a number of developing countries because it does not just ask how much was spent on food expenditures, but also asks how much was actually consumed from various sources, including market expenditure, consumption from own production and transfers.

2. The analysis in this report is based primarily upon the 1984 and 1987 SUSENAS surveys. The 1984 survey was conducted in February 1984 and the 1987 survey was conducted in January 1987. Both surveys involved slightly more than 50,000 households. The 1987 SUSENAS also contained a socioeconomic module which surveyed the educational status of the individual members of each household, their health status including information about the type of treatment received, and nutritional information on children under the age of five.2/

Reliability of the SUSENAS

3. It is difficult to assess the reliability of the SUSENAS surveys. One indicator of reliability is its coverage of the population. This can be measured by comparing the SUSENAS with the national accounts consumption data. However, it should be noted that private consumption in the Indonesian national accounts has been, for the most part, obtained as a residual, based on matching the production and expenditure sides of the national accounts, and may therefore be a somewhat questionable basis for judgment.3/ Private

1/ For a thorough discussion of the SUSENAS and its use for modelling consumer behavior, see Dominique van de Walle, "On the Use of the SUSENAS for Modelling Consumer Behavior," Bulletin of Indonesian Studies, Vol. 24, No. 2, August 1988, pp. 107-122.

2/ This information forms the basis of the analysis contained in Chapter IV.

3/ A number of problems arise with obtaining private consumption as a residual. For instance, when private sector inventories are inadequately identified in capital formation, private consumption may be biased upwards since the "residual" would include the inventories.

consumption data from the two sources are given in Table 1. Private consumption, as estimated by the SUSENAS, amounted to 58.6% of the national accounts estimate of private consumption in 1980, 57.2% in 1984 and 64.8% in 1987. Thus, there is a divergence between SUSENAS and national accounts data. The SUSENAS typically yields lower estimates of per capita consumption than the national accounts.^{4/}

Table 1: COMPARISON OF PRIVATE CONSUMPTION ESTIMATES
(Rp billion)

Private consumption (Rp billion)	1980	1984 ^{/a}	1987 ^{/a}
National accounts	25,045	54,067	71,989
SUSENAS	14,670	30,940	46,675
SUSENAS as % of national accounts	58.6	57.2	64.8

^{/a} Revised CBS National Accounts.

Sources: 1980, 1984, 1987 SUSENAS, CBS National Accounts, CBS

4. There are several possible sources of this discrepancy. First, services and/or transfers provided by the Government to private households are not generally covered by the SUSENAS. But, the magnitude of the discrepancy is too large to be accounted for solely by this omission. Second, it is probable that SUSENAS surveys do not adequately cover consumption by upper-income groups, in particular, their expenditures on consumer durables, real estate rentals, and consumption of luxury goods and services. The apparent decrease over time in SUSENAS undercoverage may reflect a decreasing relative importance of consumption by the rich. Third, it is inherently difficult to survey certain types of households--tribal peoples, people living in remote and isolated areas and individuals without a fixed abode. A disproportionate number of these may be poor. For example, it is not implausible that the itinerant urban poor in large cities, such as Jakarta are not well represented in the SUSENAS survey.^{5/} Moreover, it also seems likely that SUSENAS data do not reflect some aspects of consumption by lower-income groups, such as meals provided by employers.

^{4/} See D. Dapice, "Trends in Income Distribution and Levels of Living 1970-75," in G. Papanek (ed.), The Indonesian Economy, 1980, Praeger, New York.

^{5/} However, a recent survey of housing in urban Indonesia, financed under the Bank's Housing Sector Loan, found a roughly similar proportion of urban residents in lower income brackets as the 1987 SUSENAS; see Chapter V for details of this survey.

5. Another potential source of measurement error in the SUSENAS survey is from recall error. To measure the extent of recall error in the SUSENAS, BPS conducted a reliability survey of the 1987 SUSENAS. For this reliability survey, about 1,200 SUSENAS families were selected and their food consumption was recorded daily in the week preceding the regular SUSENAS enumeration. A comparison of the daily enumeration with the results from the SUSENAS interview gives an indication of the amount of recall error in the SUSENAS. The results of this exercise for 1987 suggest that food consumption of lower-income families is overestimated and of higher-income families underestimated. A regression analysis between weekly food expenditures recorded by the 1987 SUSENAS and the 1987 reliability survey yielded the following equation:

$$\begin{array}{l} \text{Food expenditures} \\ \text{1987 SUSENAS} \end{array} = 3404.13 + \begin{array}{l} 0.765819 \\ (0.022) \end{array} \times \begin{array}{l} \text{Food Expenditures} \\ \text{Reliability Survey} \end{array}$$

$$\text{adj. } R^2 = 0.51$$

(the standard error of the estimate is in parenthesis)

Use of SUSENAS to Measure Poverty

6. Virtually all studies of poverty in Indonesia have used SUSENAS data as the measure of the standard of living. In this report, the 1984 and 1987 SUSENAS surveys are also used in the assessment of poverty and its trend. Hence, the view taken here is that while the SUSENAS data cannot be used to study changes in overall consumption shares, the data are useful in assessing trends in average consumption of the poorest 40% and in studying trends in poverty incidence and the characteristics of the poor.

7. The following points should be noted about the SUSENAS survey and our analysis:

- (a) The SUSENAS aims to provide a random sample (about 50,000 households in each year) of the entire population. However, given that it is difficult to survey certain types of households and a disproportionate number of these may be poor, there may be some downward bias in the absolute number of the poor as calculated from the SUSENAS. The trend will be unaffected as long as there has been no increase in the proportion of these individuals.
- (b) Following past practice, consumption per capita is calculated by dividing by the size of the household which makes no allowance for the likely variation in consumption needs between different persons, according to (for example) age or gender. There is a large literature on the construction of equivalence scales which allow the normalization to take account of such differences in household composition, though there is no single ideal method for dealing with this issue.^{6/} Future work on measuring poverty in Indonesia might

^{6/} For a recent discussion and some evidence for Indonesia, see Angus Deaton and John Muellbauer, "On Measuring Child Costs: With Application to Poor Countries," Journal of Political Economy, 1986, 94: 720-744.

fruitfully address this issue, but for present purposes we shall follow past practice.

- (c) The SUSENAS provides only a single "snapshot" of the distribution of consumption. The estimates obtained will depend in part on the date of interview, particularly in rural areas where past work has found evidence of seasonality in consumption (as well as incomes).^{7/} The 1984 and 1987 SUSENAS surveys used here were done at approximately the same time of the year in roughly comparable agricultural years, and so this is unlikely to be a problem for comparisons between those years.^{8/}
- (d) The SUSENAS survey contains information on both income and consumption expenditures. We have used consumption expenditures to measure the standard of living. The use of consumption rather than income is generally desirable in this setting, since income is more difficult to measure, income fluctuates more due for example to seasonality, and households can save. It can be argued that consumption expenditures for a single date will, therefore, provide a better measure of a household's standard of living.
- (e) Income or expenditure based poverty assessments typically ignore publicly provided goods, as these cannot be easily valued in terms of money. Public services to the poor are clearly relevant to poverty assessments, but they are unlikely to be reflected in the consumption expenditure distributions used in the present study. The availability of these publicly provided services to the poor is discussed in Chapters IV and V of this report.
- (f) The SUSENAS estimates household caloric intake by applying fixed caloric food values to observed consumptions of about 170 categories of food and beverage for each household, based on seven-day recall by the respondent. Caloric intakes are almost certainly underestimated, mainly because the quantity of food consumed outside the home, e.g. in street-side stalls and restaurants, is not recorded ^{9/} (although expenditures on these items are classified elsewhere in the survey). This is more likely to bias the urban caloric distributions than those for rural areas. However, there is no obvious reason why the problem should bias comparisons over time.

^{7/} This was found in a study of poverty in East Java based on the 1981 SUSENAS which spanned the entire year. See, Martin Ravallion, "Poverty in East Java: Sectoral, Regional and Seasonal Profiles." in H. Dick, et al. (eds), The Development of East Java Under the New Order, The Research School of Pacific Studies, The Australian National University, 1988.

^{8/} The poor rice harvest of 1987 occurred after the SUSENAS interviews.

^{9/} See Dominique van de Walle, 1988, op. cit., pp. 117-119.

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Issues in Price Deflation

Introduction

1. An important problem in comparing consumption levels across space and time is that prices are not constant. For Indonesia the interregional differences in prices at one point in time may be just as important as the usual intertemporal differences associated with inflation. The consumer price index (CPI) for Indonesia monitors price changes over time for bundles of goods which are predetermined in composition for each of a number of cities (spanning the archipelago), but are not, however, strictly comparable between cities.^{1/} Nor can it be convincingly argued that the differences in goods composition across regions solely reflect consumer substitution effects. It is quite likely that the bundle of goods is more "generous" in richer cities; therefore, the implicit reference utility level cannot be assumed to be constant.

Construction of an Appropriate Price Index

2. In the absence of an ideal price deflator, we have based all distributional comparisons in this report on the Ordinary CPI which ignores spatial price variability in the base period, and simply adjusts prices for January 1987 in each province to the corresponding February 1984 prices using the price index for its capital city (although with higher weights on food expenditure; see para. 8 below). The use of this index may, however, lead to some overestimation of the regional disparities in living standards, since it ignores spatial price variability which is likely to be positively correlated with nominal expenditures.

3. To construct a spatial distribution of prices, there are two alternatives. The first is a spatially adjusted CPI, which uses the expenditure data by city underlying the CPI to construct an index normalizing all 1987 consumptions to 1984 Jakarta prices. As noted in para. 1, this has the disadvantage that it reflects both price differences and income differences between cities. A second alternative is the "Minimum Physical Requirements Index" (KFM) compiled by the Ministry of Manpower, which reportedly is based upon the same urban expenditure basket for each province.

^{1/} The index tracks changes in the cost of an average consumption bundle in each of 17 provincial capital cities; for other capital cities, shares are used for the city among the 17 provincial capital cities which is considered to be most similar in this respect (usually the closest).

These data, while published by the Central Bureau of Statistics, are collected by Ministry of Manpower staff in the provincial offices. We were unable to obtain details of the expenditure basket, or the method of collection. Furthermore, the rate of inflation implied by this index is significantly higher than the CPI, as well as all other inflation measures in Indonesia. Therefore, this method of deflation was not used in our analysis.

4. Alternative analysis was undertaken with the spatially-adjusted CPI, realizing that this index was likely to lead to an underestimate of the regional disparities in living standards, because the implicit bundles of goods are not spatially constant. It turned out, however, that the choice between this deflator and the unadjusted CPI had a negligible effect upon the alternative estimates of aggregate poverty. Therefore, the results reported for the alternative poverty line are for the unadjusted CPI only.

Rural-Urban Price Differentials

5. No price index is, however, available for rural areas. Past practice has been to make some assumption about the urban/rural cost-of-living differential, reflecting the fact that the prices for most goods (particularly food and housing) tend to be higher in urban areas. For example, on Indonesia's most populous island, Java, it has been estimated that average dwelling rents in 1981 were six times greater in urban areas than rural areas, while the price of the main food staple, rice, was on average only 10% higher in urban areas. Observations of this sort have often led investigators to use substantially different poverty lines for urban and rural areas of Indonesia. This practice has implications for the urban/rural disaggregation of the population below the poverty line.

6. A proper treatment of these issues would require a demand system analysis to construct a true spatial cost-of-living index or money metric utility function. This is beyond the resources of the present inquiry. Nonetheless we can still learn something from recent research along these lines. One of the potentially most important lessons is that past work appears to have considerably overestimated the urban-rural cost-of-living differential for Indonesia; a differential of about 10% appears to be plausible for the poor.^{2/}

7. A comparison of the rate of inflation between urban areas and rural areas indicates that there was not a significant difference between the two areas (see Table 1). The best available indicator for rural inflation is the household consumption component of the farmer's terms of trade index, which is based upon household weights from the 1984 SUSENAS. However, this index is only available for four provinces in Java. Except for Central Java, it shows a slightly lower rate of inflation in rural areas than shown by the CPI for urban areas. For the Outer Islands, the only available index is the Nine

^{2/} See, Martin Ravallion and Dominique van de Walle, op.cit.

Essential Commodities Index. This index shows a lower rate of inflation than the CPI, but it is based on 1971 weights and its reliability is subject to debate. Therefore given the similarities in the rate of inflation, the construction of the real income and consumption distributions and the alternative estimates of poverty assumed a 10% differential in price levels between rural and urban areas. The differential was also assumed to remain constant between 1984 and 1987.

Measurement Errors in the CPI

8. A further potential source of error in the assessment of poverty is imprecision in the underlying price index. There are two problems with the CPI. First, the goods composition of the index is not ideal for measuring the standard of living of the poor; the weight on food (particularly rice) is undoubtedly too low.^{3/} This does not, of course, mean that the CPI will underestimate inflation for the poor; that also depends on how relative prices changed. On disaggregating the CPI by commodity group we have found that the rate of inflation between February 1984 and January 1987 was slightly higher for the food group than the nonfood group in most provinces, though the difference is small. There is, however, no reason why one need be confined to the expenditure weights implicit in the CPI. For the purposes of this study we have recalculated the price index using a higher food share, corresponding to the average expenditure share of the poorest 30% of urban households in 1984 which was calculated to be 0.68, substantially higher than the CPI weight of about 0.45. Since the relative price between food and non-food changed little during the study period, this reweighting did not have much effect on the poverty assessments.

9. Second, there is also some doubt about the methods used for compiling rice prices in the CPI. Average market prices are used. Though there does not appear to be any hard evidence, it is widely thought that average rice quality generally declined over the last ten years or so (with the introduction of the new high-yielding varieties). Thus the use of average market prices tends to put a downward bias on estimates of the cost of a given quality of rice. World Bank staff have compared rates of rice price inflation implied by the CPI with that of a specific grade of rice over the period 1986-88. The results suggest that the recent rates of rice price increase for an approximately uniform quality of rice are higher than those implicit in the CPI. However the divergence has mainly occurred since mid-1987, seemingly associated with high rates of rice price increases as a result of that year's poor harvest. The implicit rice price in the CPI tracks well with the monthly market price of a uniform quality of rice over the period of the present study. Therefore, no adjustment has been made for rice price changes in this study.

^{3/} See, Mulijanto, Consumer Price Index as an Indicator to Assess Inflation: The Case of Indonesia, unpublished Master's thesis, Institute of Social Studies, The Hague, 1989.

Table 1: TRENDS IN RURAL INFLATION

<u>Nine-Essential Commodities Index (1971=100)</u>	<u>Feb. 1984 - Jan. 1987 (%)</u>
Java and Madura	18.1
Off-Java	13.1
<u>Average /a</u>	<u>16.1</u>
<u>Farmers Terms of Trade Index:</u>	
<u>Household Consumption Component (1983=100)</u>	
West Java	14.6
Central Java	20.3
Yogyakarta	15.0
East Java	13.9
<u>Average Java /a</u>	<u>16.1</u>
<u>Memo Item:</u>	
Adjusted CPI /b	
Java	18.5
Off-Java	18.4
<u>Average</u>	<u>18.4</u>

/a Average derived by weighting individual series by 1984 rural populations.

/b See Annex I, para.7 and Annex Table 1. Average derived by weighting provincial inflation rates by 1984 urban population in each province.

Source: Indikator Ekonomi, BPS, May 1984 and April 1987;
Nilai Tukar Petani Jawa Madura (1983=100), 1983-1988, CBS,
February 1989

INDONESIA

POVERTY ASSESSMENT AND STRATEGY REPORT

Estimates of the Incidence of Poverty in Indonesia

Official Estimates of Poverty

1. The Central Bureau of Statistics (CBS) has calculated since 1976 an official poverty line for Indonesia disaggregated into urban and rural areas. The methodology underlying this estimate is based on two elements--a minimum daily caloric intake and an allowance for other non-food basic necessities. The minimum daily caloric intake is set at 2,100 calories, the Recommended Daily Dietary Allowance (RDA) by the 1978 National Workshop on Food and Nutrition. There is no allowance for protein intake. In calculating the expenditure level necessary to reach the RDA, the CBS divides lower income households into several expenditures categories for both rural and urban households. Then, the implicit SUSENAS "calorie price" is calculated by dividing food expenditures by the actual calories consumed. The "calorie price" for that group in which total expenditures are just sufficient to purchase the RDA is then used to calculate the food component of the poverty line.

2. The allowance for other basic necessities is the percentage of expenditure by households in the selected expenditure category on a set of non-food basic needs. These non-food basic needs are divided into four categories of items: (i) housing, fuel, light and water; (ii) miscellaneous goods and services; (iii) clothing, footwear and headwear; and (iv) durable goods (i.e., utensils and dishes). Within these categories, different items are used for urban and rural households, reflecting different consumption patterns.

3. The Official Poverty line is then obtained by inflating the food component of the poverty line by the percentage of expenditures on these non-food items. The official poverty line and the incidence of poverty are shown for the period 1976-87 in Tables 1 and 2, respectively.

**Table 1: OFFICIAL POVERTY LINE FOR URBAN
AND RURAL AREAS
(Rupiah per capita per month)**

	Urban	Rural
1976	4,522	2,849
1978	4,969	2,981
1980	6,831	4,449
1981	9,777	5,877
1984	13,731	7,746
1987	17,381	10,294

Source: Kemiskinan Distribusi Pendapatan dan Kebutuhan Pokok, Central Bureau of Statistics, August 1989, Jakarta, Indonesia.

**Table 2: INCIDENCE OF POVERTY, 1976-87
(%)**

	Urban	Rural	Total
1976	38.8	40.4	40.1
1978	30.8	33.4	33.3
1980	29.0	28.4	28.6
1981	28.1	26.5	26.9
1984	23.1	21.2	21.6
1987	20.1	16.4	17.4

Source: Central Bureau of Statistics, see Table 1.

Other Estimates of the Incidence of Poverty

4. In addition to the alternative poverty line estimated for 1984-87 in this report, there have been a number of other estimates of the incidence of poverty in Indonesia. While virtually all studies have used the SUSENAS surveys to measure the standard of living, the specification of the "poverty line" has differed between these studies, although conceptually the definition of poverty has been very similar. As a result, estimates of the percentage of the population and the number of the poor have also varied. This section reviews the two most widely cited studies:

- (a) Rao Estimate: An estimate calculated by V.V. Bhanoji Rao/ and used by the World Bank in previous studies.
- (b) Sayogyo Estimate: An estimate by Professor Sayogyo2/ using rice as the measure of the standard of living.

The following sections examine the methodology of these poverty estimates and update them through 1987. It is interesting to note that both of these estimates show a significant decline in poverty over the adjustment period, as does the official line.

A. The Rao Method

5. This method uses the concept of a minimum daily caloric requirement necessary to sustain life as a starting point, and then imputes the associated costs of basic social services (such as education, health care, etc.) to arrive at a Rupiah estimate of the poverty line.

6. The first step is to compute the value of food necessary to supply the minimum energy level. The appropriate energy level for Indonesia is based on FAO recommended levels for children and adults, and is 2,150 calories per person per day. Rice and fish are two of the most common foods in Indonesia. Rao's investigation found that not only was rice consumption more widespread (than fish) throughout Indonesia, but rice also provided sufficient dietary protein (as prescribed by the FAO guidelines) to sustain life. In addition, rice is the cheapest source of both calories and protein. Thus, it was selected as the principal source of calories. On this basis, a person would have to consume about 17.6 kg of rice per month. Based on an analysis of expenditure patterns which suggest that other foods account for about 20% of food expenditure in 1980, it is inferred that rice only provides about 90% of the caloric requirement, with other foods accounting for the balance. Thus the monthly rice consumption figure is revised downwards to 16 kg to account for the consumption of other foods. Once minimum food expenditures are established for each province by urban and rural areas, they are then inflated by the average ratio of food to total expenditures to allow for other non-food basic expenditures. This adjustment is based on the average ratio of food expenditure to total expenditure on a provincial as well urban/rural basis. A provincial poverty line for both urban and rural areas is then calculated, on which the distribution of poverty is based. The calculation of the provincial poverty line is summarized below:

1/ Poverty in Indonesia, 1970-80: Trends, Associated Characteristics and Research Issues, V.V. Bhanoji Rao, mimeo, World Bank, 1984. Also see, Indonesia: Policies and Prospects for Economic Growth and Transformation, World Bank, Report No.5066-IND, April 26, 1984.

2/ Usaha Perbaikan Gizi Keluarga, Bogor Agriculture Institute, 1975; and Rural Poverty and Efforts for Its Alleviation in Indonesia. A Sociological Review, Sayogyo and G. Wiradi, FAO, 1985.

- (i) Food expenditure for 90% of caloric requirement - Exp.rice
(This is the value of 16 kg of rice)
- (ii) Total food expenditure - (Exp.rice)x1.25
(Rice expenditure inflated by 25%)
- (iii) Average of food expenditure in total expenditure - X
(This is estimated for each region)
- (iv) Poverty line for province - $\frac{(\text{Exp.rice})1.25}{X}$

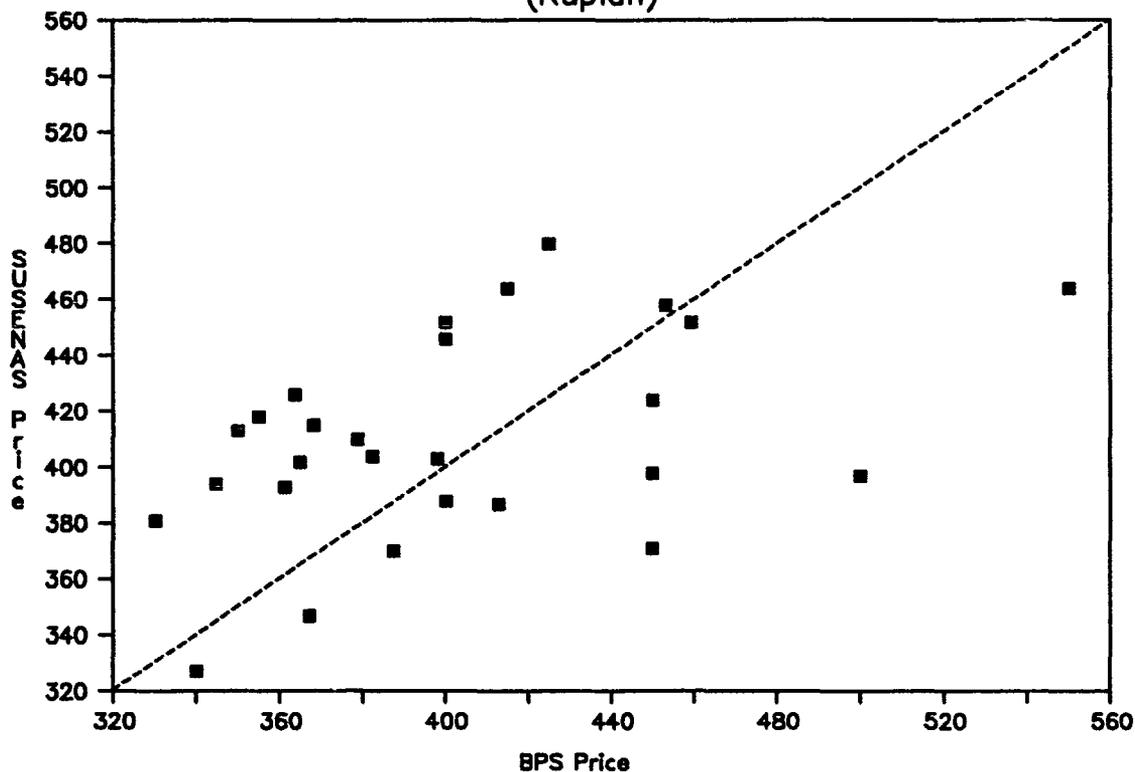
The estimation of this poverty line depends crucially on the price of rice, and the adjustments for nonrice food expenditures and nonfood expenditures.

7. Rice prices on a provincial basis are available from two sources--CBS prices and the implicit SUSENAS rice price. The implicit SUSENAS rice price was calculated for each household based on the reported consumption of each type of rice. Four types of rice are enumerated: locally-grown rice; hybrid rice; imported rice; and glutinous rice. The respondents reported consuming rice received as a gift, as part of a ration allocation, which they purchased and their own production. Consumption of rice grown in the household was limited to rural areas only. In 1984 the average rice price was Rp.329 per kg, with the average urban price 10% higher than the average rural price. This had risen to Rp.410 per kg by 1987, with similar variations between urban and rural prices.

8. The implicit SUSENAS rice price was preferred as it is a better indicator of the actual inter- and intraregional quality differences in rice. CBS prices are available only for selected grades. Figure 1 compares average urban rice prices implicit in the SUSENAS to CBS urban prices. The CBS price is for a representative medium grade. While the mean rice price is roughly equivalent between the two sources, there is a considerable variation in prices by province. The correlation coefficient between the provincial rice prices is only 0.45 in 1987.

9. Tables 3 and 4 show the provincial poverty lines by rural and urban areas using implicit SUSENAS rice prices and the ratio of food to total expenditures, computed by Rao for February 1980. Tables 5-8 detail similar estimates of poverty lines for 1984 and 1987 based on the 1984 and 1987 SUSENAS surveys. Table 9 presents estimates of the percentage of the population considered poor using these poverty lines.

Figure 1: COMPARISON OF RICE PRICES, 1987
(Rupiah)



Source: BPS and 1987 SUSENAS Survey.

**Table 3: URBAN POVERTY LINES BY PROVINCE,
FEBRUARY 1980**

Province	Rice Price (Rp/kg)	Value of 16 kg (Rp)	x 1.25 (Rp)	Ratio of Food to Total Expenditure	Poverty Line (Rp)
Aceh	211	3,376	4,220	0.76	5,533
N. Sumatra	226	3,616	4,520	0.68	6,647
W. Sumatra	239	3,824	4,780	0.69	6,928
Riau	226	3,616	4,520	0.69	6,551
Jambi	208	3,328	4,160	0.72	5,778
S. Sumatra	218	3,488	4,360	0.66	6,606
Bengkulu	236	3,776	4,720	0.67	7,045
Lampung	226	3,616	4,520	0.64	7,062
DKI Jakarta	216	3,456	4,320	0.59	7,322
W. Java	211	3,376	4,220	0.67	6,298
C. Java	208	3,328	4,160	0.66	6,303
DI Jogjakarta	214	3,424	4,280	0.61	7,016
E. Java	202	3,232	4,040	0.64	6,313
Bali	189	3,024	3,780	0.69	5,478
W. Nusa Tenggara	196	3,136	3,920	0.74	5,297
E. Nusa Tenggara	346	5,536	6,920	0.60	11,533
W. Kalimantan	216	3,456	4,320	0.75	5,760
C. Kalimantan	236	3,776	4,720	0.72	6,556
S. Kalimantan	236	3,776	4,720	0.70	6,743
E. Kalimantan	226	3,616	4,520	0.64	7,063
N. Sulawesi	225	3,600	4,500	0.75	6,000
C. Sulawesi	217	3,472	4,340	0.69	6,290
S. Sulawesi	220	3,520	4,400	0.70	6,286
S.E. Sulawesi	199	3,184	3,980	0.68	5,853
Maluku	212	3,392	4,240	0.69	6,145
Irian Jaya	157	2,512	3,140	0.56	5,607

Source: Bhanoji Rao, 1984, op. cit.

**Table 4: RURAL POVERTY LINES BY PROVINCE,
FEBRUARY 1980**

Province	Rice Price (Rp/kg)	Value of 16 kg (Rp)	x 1.25 (Rp)	Ratio of Food to Total Expenditure	Poverty Line (Rp)
Aceh	206	3,296	4,120	0.79	5,215
N. Sumatra	213	3,408	4,260	0.74	5,757
W. Sumatra	212	3,392	4,240	0.78	5,436
Riau	221	3,536	4,420	0.75	5,893
Jambi	208	3,328	4,160	0.72	5,778
S. Sumatra	227	3,632	4,540	0.73	6,219
Bengkulu	232	3,712	4,640	0.74	6,270
Lampung	214	3,424	4,280	0.74	5,784
W. Java	198	3,168	3,960	0.75	5,280
C. Java	188	3,008	3,760	0.68	5,529
DI Jogjakarta	196	3,136	3,920	0.63	6,222
E. Java	178	2,848	3,560	0.67	5,313
Bali	179	2,864	3,580	0.75	4,773
W. Nusa Tenggara	192	3,072	3,840	0.76	5,053
E. Nusa Tenggara	218	3,488	4,360	0.74	5,892
W. Kalimantan	224	3,584	4,480	0.82	5,463
C. Kalimantan	222	3,936	4,920	0.77	6,390
S. Kalimantan	221	3,568	4,460	0.80	5,575
E. Kalimantan	218	3,664	4,580	0.73	6,374
N. Sulawesi	224	3,584	4,480	0.74	6,054
C. Sulawesi	222	3,552	4,440	0.76	5,842
S. Sulawesi	221	3,536	4,420	0.77	5,740
S.E. Sulawesi	218	3,488	4,360	0.74	5,892
Maluku	239	3,824	4,780	0.71	6,732
Irian Jaya	162	2,592	3,240	0.64	5,062

Source: Bhanoji Rao, 1984, op. cit.

**Table 5: URBAN POVERTY LINES BY PROVINCE,
FEBRUARY 1984**

Province	Rice Price (Rp/kg)	Value of 16 kg (Rp)	x 1.25 (Rp)	Ratio of Food to Total Expenditure	Poverty Line (Rp)
Aceh	394	6,304	7,880	0.62	12,730
N. Sumatra	375	6,000	7,500	0.61	12,315
W. Sumatra	410	6,560	8,200	0.61	13,487
Riau	418	6,688	8,360	0.65	12,802
Jambi	371	5,936	7,420	0.66	11,294
S. Sumatra	369	5,904	7,380	0.63	11,752
Bengkulu	379	6,064	7,580	0.63	12,013
Lampung	353	5,648	7,060	0.63	11,153
DKI Jakarta	380	6,080	7,600	0.53	14,394
W. Java	345	5,520	6,900	0.60	11,558
C. Java	332	5,312	6,640	0.62	10,727
DI Jogjakarta	332	5,312	6,640	0.52	12,648
E. Java	321	5,136	6,420	0.59	10,790
Bali	316	5,056	6,320	0.56	11,186
W. Nusa Tenggara	338	5,408	6,760	0.66	10,181
E. Nusa Tenggara	346	5,536	6,920	0.60	11,533
W. Kalimantan	382	6,112	7,640	0.66	11,523
C. Kalimantan	369	5,904	7,380	0.66	11,182
S. Kalimantan	400	6,400	8,000	0.67	11,887
E. Kalimantan	382	6,112	7,640	0.56	13,546
N. Sulawesi	374	5,984	7,480	0.58	12,874
C. Sulawesi	320	5,120	6,400	0.59	10,866
S. Sulawesi	300	4,800	6,000	0.59	10,084
S.E. Sulawesi	322	5,152	6,440	0.58	11,123
Maluku	395	6,320	7,900	0.53	14,766
Irian Jaya	495	7,920	9,900	0.54	18,333

Source: World Bank staff estimates from the 1984 SUSENAS survey.

**Table 6: RURAL POVERTY LINES BY PROVINCE,
FEBRUARY 1984**

Province	Rice Price (Rp/kg)	Value of 16 kg (Rp)	x 1.25 (Rp)	Ratio of Food to Total Expenditure	Poverty Line (Rp)
Aceh	341	5,456	6,820	0.78	8,766
N. Sumatra	348	5,568	6,960	0.74	9,342
W. Sumatra	371	5,936	7,420	0.75	9,920
Riau	388	6,208	7,760	0.75	10,278
Jambi	367	5,872	7,340	0.78	9,398
S. Sumatra	356	5,696	7,120	0.74	9,583
Bengkulu	375	6,000	7,500	0.75	9,973
Lampung	334	5,344	6,680	0.74	8,991
W. Java	325	5,200	6,500	0.71	9,155
C. Java	303	4,848	6,060	0.68	8,964
DI Jogjakarta	315	5,040	6,300	0.65	9,752
E. Java	300	4,800	6,000	0.65	9,259
Bali	300	4,800	6,000	0.69	8,734
W. Nusa Tenggara	334	5,344	6,680	0.73	9,176
E. Nusa Tenggara	326	5,216	6,520	0.77	8,479
E. Timor	374	5,984	7,480	0.63	11,854
W. Kalimantan	374	5,984	7,480	0.80	9,303
C. Kalimantan	412	6,592	8,240	0.77	10,660
S. Kalimantan	367	5,872	7,340	0.79	9,279
E. Kalimantan	382	6,112	7,640	0.75	10,241
N. Sulawesi	355	5,680	7,100	0.73	9,780
C. Sulawesi	323	5,168	6,460	0.77	8,422
S. Sulawesi	279	4,464	5,580	0.73	7,613
S.E. Sulawesi	328	5,248	6,560	0.70	9,331
Maluku	454	7,264	9,080	0.77	11,854
Irian Jaya	545	8,720	10,900	0.64	16,978

Source: World Bank staff estimates from 1984 SUSENAS survey.

**Table 7: URBAN POVERTY LINES BY PROVINCE,
JANUARY 1987**

Province	Rice Price (Rp/kg)	Value of 16 kg (Rp)	x 1.25 (Rp)	Ratio of Food to Total Expenditure	Poverty Line (Rp)
Aceh	452	7,232	9,040	0.58	15,453
N. Sumatra	464	7,424	9,280	0.60	15,364
W. Sumatra	480	7,680	9,600	0.60	15,973
Riau	464	7,424	9,280	0.62	14,896
Jambi	403	6,448	8,060	0.65	12,324
S. Sumatra	418	6,688	8,360	0.64	13,002
Bengkulu	458	7,328	9,160	0.63	14,633
Lampung	398	6,368	7,960	0.59	13,446
DKI Jakarta	415	6,640	8,300	0.50	16,734
W. Java	387	6,192	7,740	0.60	12,987
C. Java	393	6,288	7,860	0.61	12,949
DI Jogjakarta	394	6,304	7,880	0.54	14,647
E. Java	381	6,096	7,620	0.55	13,956
Bali	388	6,208	7,760	0.56	13,735
W. Nusa Tenggara	371	5,936	7,420	0.64	11,522
E. Nusa Tenggara	397	6,352	7,940	0.60	13,322
W. Kalimantan	410	6,560	8,200	0.66	12,349
C. Kalimantan	452	7,232	9,040	0.68	13,294
S. Kalimantan	426	6,816	8,520	0.64	13,209
E. Kalimantan	413	6,608	8,260	0.61	13,475
N. Sulawesi	404	6,464	8,080	0.58	13,836
C. Sulawesi	370	5,920	7,400	0.56	13,191
S. Sulawesi	327	5,232	6,540	0.60	10,810
S.E. Sulawesi	347	5,552	6,940	0.55	12,595
Maluku	402	6,432	8,040	0.57	14,105
Irian Jaya	424	6,784	8,480	0.60	14,204

Source: World Bank staff estimates from 1987 SUSENAS survey.

**Table 8: RURAL POVERTY LINES BY PROVINCE,
JANUARY 1987**

Province	Rice Price (Rp/kg)	Value of 16 kg (Rp)	x 1.25 (Rp)	Ratio of Food to Total Expenditure	Poverty Line (Rp)
Aceh	418	6,688	8,360	0.77	10,914
N. Sumatra	445	7,120	8,900	0.76	11,664
W. Sumatra	445	7,120	8,900	0.73	12,209
Riau	429	6,864	8,580	0.74	11,658
Jambi	414	6,624	8,280	0.75	10,967
S. Sumatra	402	6,432	8,040	0.74	10,792
Bengkulu	435	6,960	8,700	0.77	11,343
Lampung	379	6,064	7,580	0.72	10,557
W. Java	368	5,888	7,360	0.69	10,651
C. Java	361	5,776	7,220	0.68	10,602
DI Jogjakarta	363	5,808	7,260	0.60	12,020
E. Java	350	5,600	7,000	0.65	10,819
Bali	369	5,904	7,380	0.65	11,406
W. Nusa Tenggara	367	5,872	7,340	0.72	10,223
E. Nusa Tenggara	384	6,144	7,680	0.76	10,105
E. Timor	446	7,136	8,920	0.81	10,945
W. Kalimantan	412	6,592	8,240	0.78	10,537
C. Kalimantan	424	6,784	8,480	0.78	10,900
S. Kalimantan	392	6,272	7,840	0.77	10,116
E. Kalimantan	390	6,240	7,800	0.72	10,788
N. Sulawesi	418	6,688	8,360	0.71	11,692
C. Sulawesi	378	6,048	7,560	0.72	10,500
S. Sulawesi	311	4,976	6,220	0.72	8,639
S.E. Sulawesi	313	5,008	6,260	0.73	8,517
Maluku	417	6,672	8,340	0.67	12,504
Irian Jaya	449	7,184	8,980	0.75	11,894

Source: World Bank staff estimates from 1987 SUSENAS survey.

Table 9: INCIDENCE OF POVERTY, 1970-1987: RAO ESTIMATE
(*)

	Urban	Rural	Total
1970	50.7	58.5	57.1
1976	31.5	54.5	50.1
1978	25.7	54.0	48.6
1980	19.7	44.6	39.1
1984	14.0	32.6	28.2
1987	8.3	18.5	15.8

Source : 1970-1980: Bhanoji Rao, 1984, op.cit;
1984, 1987: World Bank staff estimates from 1984 and 1987 SUSENAS surveys.

B. The Sayogyo Estimate

10. The Sayogyo estimate is based on the notion of measuring income in terms of rice purchasing power. Using this methodology, Professor Sayogyo categorized households into four groups according to their rice equivalent incomes:

- (i) Very poor: comprising rural households with annual per capita income below 240 kg of rice equivalent and urban households whose incomes fall below 480 kg per year.
- (ii) Poor: this includes rural and urban households whose rice equivalent per capita incomes are below 320 kg per annum, and 480 kg per annum, respectively.
- (iii) Almost self-sufficient: includes rural households whose rice equivalent incomes are below 480 kg per person per year and urban households with incomes below 720 kg.
- (iv) Self-sufficient: are rural households with incomes in excess of 480 kg and urban households with incomes greater than 720 kg per person per year.

11. The underlying rationale of this method was that in many parts of rural Indonesia, rice consumption was the yardstick by which families measured their welfare and wealth. Although this rice-based poverty line may have had some validity in rural Indonesia, it is probably not a very good indicator in

urban areas where many other goods are also consumed. In fact the diversification of the consumption basket has proliferated in rural areas today.

12. For the purposes of this report we aggregated the four categories into the following two categories:

- (i) Poor individuals were those whose household per capita incomes were below 320 kg of rice equivalent for rural households and 480 kg of rice for urban households.
- (ii) Nonpoor individuals were those whose household per capita income was in excess of 320 kg and 480 kg rice equivalent for rural and urban areas, respectively.

Thus the monthly per capita poverty cut-off was established at 26 2/3 kg of rice and 40 kg of rice, for rural and urban areas respectively. This estimate also relies on the price of rice for determining poverty lines. The same arguments once again favored use of the implicit SUSENAS prices over the CBS prices. Table 10 summarizes the incidence of poverty, combining Sayogyo's previous results and those derived from the 1984 and 1987 SUSENAS. Tables 11 and 12 show the provincial poverty lines calculated for rural and urban areas, applying Professor Sayogyo's method as specified above.

Table 10: INCIDENCE OF POVERTY, 1970-87: SAYOGYO ESTIMATE
(%)

	Urban	Rural	Total
1970	67.9	64.4	65.0
1976	49.7	47.6	48.0
1981	26.9	23.6	24.3
1984	23.5	27.2	26.3
1987	15.3	13.9	14.3

Sources: 1970-1981: Sayogyo and Wiradi, op.cit.
1984, 1987: World Bank staff estimates from 1984 and 1987 SUSENAS surveys.

**Table 11: SAYOGYO URBAN & RURAL POVERTY LINES BY PROVINCE,
FEBRUARY 1984**

Province	Poverty Line	
	Urban	Rural
	(Rp/month)	
Aceh	15,760	9,093
N. Sumatra	15,000	9,280
W. Sumatra	16,400	9,893
Riau	16,720	10,347
Jambi	14,840	9,787
S. Sumatra	14,760	9,493
Bengkulu	15,160	10,000
Lampung	14,120	8,907
DKI Jakarta	15,200	8,667
W. Java	13,800	8,080
C. Java	13,280	8,400
DI Jogjakarta	13,280	8,000
E. Java	12,840	8,000
Bali	12,640	8,907
W. Nusa Tenggara	13,520	8,693
E. Nusa Tenggara	13,840	9,973
W. Kalimantan	15,280	9,973
C. Kalimantan	14,760	10,987
S. Kalimantan	16,000	9,787
E. Kalimantan	15,280	10,187
N. Sulawesi	14,960	9,467
C. Sulawesi	12,800	8,613
S. Sulawesi	12,000	7,440
S.E. Sulawesi	12,880	8,747
Maluku	15,800	12,107
Irian Jaya	19,800	14,533

Source: World Bank staff estimates from
1984 SUSENAS survey.

**Table 12: SAYOGYO URBAN & RURAL POVERTY LINES BY PROVINCE,
JANUARY 1987**

Province	Poverty Line	
	Urban	Rural
	(Rp/month)	
Aceh	18,080	11,147
N. Sumatra	18,560	11,867
W. Sumatra	19,200	11,867
Riau	18,560	11,440
Jambi	16,120	11,040
S. Sumatra	16,720	10,720
Bengkulu	18,320	11,600
Lampung	15,920	10,107
DKI Jakarta	16,600	9,813
W. Java	15,480	9,627
C. Java	15,720	9,680
DI Jogjakarta	15,760	9,333
E. Java	15,240	9,840
Bali	15,520	9,787
W. Nusa Tenggara	14,840	10,240
E. Nusa Tenggara	15,880	11,893
W. Kalimantan	16,400	10,987
C. Kalimantan	18,080	11,307
S. Kalimantan	17,040	10,453
E. Kalimantan	16,520	10,400
N. Sulawesi	16,160	11,147
C. Sulawesi	14,800	10,080
S. Sulawesi	13,080	8,293
S.E. Sulawesi	13,880	8,347
Maluku	16,080	11,120
Irian Jaya	16,960	11,973

Source: World Bank staff estimates from
1987 SUSENAS survey.

INDONESIA

POVERTY ASSESSMENT AND STRATEGY REPORT

Trends in Real Wages during the Adjustment Period

1. The movement of real wages during the adjustment period (1983-1988) has been the subject of considerable controversy.^{1/} This debate has principally focussed on recent trends in the real wages of agricultural, unskilled laborers because of the large proportion of Indonesia's population and its poor residing in rural areas and because movements in unskilled wages across occupational categories tend to be highly correlated. Regarding recent trends in agricultural wages, the debate has revolved around the appropriate price index for deflating nominal wages and the time period under consideration.^{2/}

2. One study (Papanek, 1988) concludes that real wages fell noticeably in agriculture during 1983-87, following significant increases in the 1976-83 period. Declining real wages are attributed to the general slowdown of economic activity and more importantly, to the lower capacity of the agricultural sector to absorb labor productively because of farm mechanization and the reduced growth of rice output. A more recent study (Naylor, 1989) shows the sensitivity of real wages in agriculture to the choice of the deflator used in calculating real wages. This study found that, after an adjustment to the rural cost of living index for an apparent error in the calculation of vegetable prices (particularly chilies), real agricultural wages rose in Java during 1983-88.^{3/}

1/ See, Papanek, Changes in Real Wages: Employment, Poverty, Competitiveness, DSP Working Paper, Jakarta, Indonesia, 1988; Collier, William, et.al., "Employment Trends in Lowland Javanese Villages", mimeo, USAID, Jakarta, 1988; Manning and Jayasuriya, "Survey of Recent Developments, Bulletin of Indonesian Economic Studies, Volume 24, No. 2 (1988); and Naylor "Wage Trends in Rice Production on Java; 1976-1988", mimeo, Food Research Institute, Stanford University (1989).

2/ Most studies use the nominal wage data for weeding, hoeing and planting in Java collected by the Central Bureau of Statistics. These data have been collected annually since 1976 on Java and since 1980 in other provinces. The wage data are for a half day's work excluding meals and cigarettes.

3/ Only real hoeing wages in Central Java declined during this period.

3. Subsequent to these studies, the Farmer's Terms of Trade index, which is used to collect data on agricultural wages and measure the rural cost of living, has been rebased in 1983 (the previous base was 1976) and revised.^{4/} Using these revised data for 1983-89, real agricultural wages appear to have continued to rise until 1987 in West Java, Central Java and Yogyakarta (Table 1). Real wages did, however, decline in 1988, reflecting the increase in rice prices which occurred due to the 1987 drought. Nevertheless, for the entire period 1983-89, agricultural wages rose on average by about 1% p.a., with the largest increase in Yogyakarta. These results are consistent with the available evidence from village surveys,^{5/} and also are closely correlated with changes in the incidence of poverty during the adjustment period (see Chapter I).

4. For the manufacturing sector, the Papanek study could not find any meaningful trend in real wages for unskilled workers during the adjustment period. However, other studies suggest that manufacturing real wages continued to increase, although at a slower pace than in the mid-1970s.^{6/} Data compiled for this study support the result that industrial wages continued to rise, although at a much slower pace than average labor productivity; real wages in the industrial sector are estimated to have risen by 3.5% p.a. during 1983-88.

5. Real wages, however, did decline for civil servants, as the real incomes of civil servants were reduced by the Government's decision to institute a wage freeze in 1985-88. This was an important adjustment response to improve the fiscal balance. The real wages of rural construction workers also stagnated, as wages were depressed until up to 1987 because of large cutbacks in public capital spending.^{7/} However, real wages in rural construction activities would have declined further without active policies to protect labor intensive construction activities (through INPRES program). The returns to labor in the informal sector (unorganized trade and transport, and personal services) appears to have initially declined in response to reduced growth in aggregate demand (1982-85) but then seem to have recovered in 1986-87, and are likely to have grown significantly in 1988.^{8/}

^{4/} The revision is based upon consumption weights calculated from the 1984 SUSENAS survey.

^{5/} See, Collier, et.al. (1988).

^{6/} See, Chris Manning, et.al., Indonesia: Employment Problem, Prospect and Policies, mimeo, World Bank, 1988.

^{7/} See, Manning and Jayasuriya (1989).

^{8/} There is little direct evidence on what happened to real returns in informal activities. Input-output data show that average labor income in transport and trade declined in 1985 as compared with 1980. On the other hand, the more rapid pace of growth of services value added, especially trade and transport, in 1986-88 suggests that real earnings must have increased.

Table 1: TRENDS IN AGRICULTURAL REAL WAGES IN JAVA, 1983-1989

	1983	1984	1985	1986	1987	1988	1989	Growth Rate % p.a. 1983-89
<u>Rural agricultural wages</u>								
<u>(Rp/half day) /a</u>								
Planting	546	574	650	692	763	827	885	8.37
Hoeing	906	993	1085	1176	1330	1464	1584	9.76
Weeding	522	574	641	697	789	859	894	9.38
Central Java								
Planting	396	442	487	530	588	639	727	10.69
Hoeing	516	567	626	689	765	812	909	9.89
Weeding	403	447	463	548	604	652	724	10.27
Yogyakarta								
Planting	250	275	337	444	479	542	625	16.50
Hoeing	380	413	492	620	678	758	847	14.27
Weeding	309	334	394	493	532	589	651	13.24
East Java								
Planting	477	535	549	511	627	713	787	8.69
Hoeing	680	758	770	812	874	951	1041	7.36
Weeding	476	534	546	566	619	703	769	8.33
<u>Rural inflation</u>								
<u>index (1983=100) /b</u>								
West Java	100.0	107.0	106.7	117.8	131.5	151.0	161.3	8.29
Central Java	100.0	113.2	116.2	127.9	144.6	160.0	172.8	9.54
Yogyakarta	100.0	112.1	113.2	121.8	136.1	152.6	163.7	8.56
East Java	100.0	109.4	108.3	117.4	132.3	146.2	157.7	7.89
<u>Real wages /c</u>								
West Java								
Planting	5.46	5.36	6.10	5.88	5.80	5.47	5.49	0.07
Hoeing	9.06	9.28	10.17	9.98	10.11	9.70	9.82	1.36
Weeding	5.22	5.37	6.00	5.92	6.00	5.69	5.54	1.01
Central Java								
Planting	3.96	3.91	4.19	4.15	4.06	3.99	4.21	1.04
Hoeing	5.16	5.01	5.39	5.39	5.29	5.08	5.26	0.31
Weeding	4.03	3.95	3.98	4.29	4.18	4.07	4.19	0.66
Yogyakarta								
Planting	2.50	2.45	2.98	3.65	3.52	3.55	3.82	7.31
Hoeing	3.80	3.68	4.35	5.09	4.98	4.97	5.17	5.26
Weeding	3.09	2.98	3.48	4.04	3.91	3.86	3.98	4.31
East Java								
Planting	4.77	4.89	5.06	4.35	4.74	4.87	4.99	0.75
Hoeing	6.80	6.93	7.11	6.92	6.61	6.50	6.60	-0.49
Weeding	4.76	4.88	5.05	4.82	4.68	4.81	4.88	0.41

/a Nominal wage data, unpublished estimates from CBS.

/b The household consumption component from the Farmers Terms of Trade Index (1983=100).

6. What is the implication of this trend in real wages for the poor? Since the bulk of Indonesia's poor reside in rural areas, labor earnings in agriculture are an important determinant of progress in alleviating poverty. The evidence presented here suggests that real wages in agriculture grew modestly during the adjustment period. Moreover, since the level of employment in agriculture also increased, it can be concluded that real earnings in the agriculture sector grew during the adjustment period. Outside agriculture, employment expanded in rural non-farm activities, and workers employed in the small-scale rural manufacturing enterprises also benefitted from the surge in non-oil exports. Moreover, the returns to some non-farm rural activities (trade and transport) may have declined initially (1982-85) but are also likely to have grown during 1986-88. Therefore, total labor income for the rural poor continued to grow during the adjustment period. In the urban areas, both employment and real wages grew in the industrial sector; however, wages grew more slowly than productivity. In the urban informal sector, incomes may have stagnated or fallen in 1982-84 but are expected to have risen during 1986-88. For the adjustment period as a whole, labor incomes for the urban poor also seem to have continued to increase. Therefore, trends in labor income broadly support the conclusion that absolute poverty declined during the adjustment period, as discussed in Chapter I.

**Annex Table 1: PROVINCIAL RATES OF INFLATION, FEB. 1984-JAN. 1987 /a
(percent)**

Province	Rate
Aceh	17.7
N. Sumatra	21.3
W. Sumatra	12.1
Riau	15.0
Jambi	20.2
S. Sumatra	12.1
Bengkulu	26.7
Lampung	21.6
DKI Jakarta	19.3
W. Java	18.7
C. Java	16.9
DI Jogjakarta	18.2
E. Java	18.9
Bali	30.9
W. Nusa Tenggara	22.4
E. Nusa Tenggara	22.3
E. Timor	25.4
W. Kalimantan	20.5
C. Kalimantan	14.6
S. Kalimantan	16.8
E. Kalimantan	10.3
N. Sulawesi	31.8
C. Sulawesi	19.0
S. Sulawesi	17.0
S.E. Sulawesi	18.0
Maluku	3.9
Irian Jaya	5.6

/a These rates of inflation were calculated by reweighting the provincial cities CPI by 1984 food and non-food expenditure shares of the poorest 30% of the urban population.

Source: World Bank staff estimated, based on 1984 SUSENAS.

Annex Table 2: AGGREGATE POVERTY MEASURES, 1984-87 /a

Poverty measure	Sector	1984 Mean	1984 st. error	1987 Mean	1987 st. error	Significant difference? /b t=	Percentage decline (1984-87)
Headcount index (%) ($\alpha=0$)	Urban	12.80	0.26	7.32	0.21	14.35	39.40
	Rural	39.43	0.26	26.80	0.23	35.77	32.03
	Total	33.02	0.21	21.65	0.18	40.86	34.39
Poverty gap ratio (%) ($\alpha=1$)	Urban	2.68	0.07	1.25	0.05	17.70	53.36
	Rural	10.32	0.09	5.29	0.06	46.37	48.74
	Total	8.52	0.07	4.22	0.05	51.63	50.47
Preferred measure ($\alpha=2$) (x100)	Urban	0.92	0.03	0.33	0.02	15.61	64.13
	Rural	3.86	0.05	1.57	0.02	44.50	59.33
	Total	3.17	0.03	1.24	0.02	49.38	60.88

/a Based on the alternative estimates, see Table 1.5.

/b $t = (Pa(1987) - Pa(1984)) / se(Pa(1987) - Pa(1984))$. All differences between the poverty measures over the two years are statistically significant at the one percent level.

Source: Ravallion and Huppi, 1989.

Annex Table 3: SOURCES OF FINANCE FOR PUBLIC EXPENDITURES
AT LOWER LEVELS OF GOVERNMENT: 1982/83-1987/88
 (Constant 1983 Prices, Billion Rupiah)

	1982/83	1983/84	1984/85	1984/86	1986/87/ <u>a</u>	1987/88/ <u>a</u>	Growth Rate 1982/83-1987/88 (% p.a.)
Total Routine Expenditures	<u>2,555</u>	<u>2,342</u>	<u>2,831</u>	<u>3,124</u>	<u>2,929</u>	n.a.	<u>3.5</u> /b
Financed by:							
Central Government Transfers	1,650	1,547	1,745	2,194	2,079	1,902	2.9
Own Resources	905	795	877	929	850	n.a.	-1.6 /b
Total Development Expenditures	<u>2,015</u>	<u>1,884</u>	<u>1,892</u>	<u>1,788</u>	<u>1,322</u>	n.a.	<u>-10.0</u> /b
Financed by:							
Central Government Transfers	1,302	1,315	1,259	1,152	918	668	-12.6
General INPRES	715	544	501	502	406	396	-11.2
Sectoral INPRES	587	771	758	650	509	270	-14.4
Own Resources	713	569	633	636	406	n.a.	-13.1 /b
Total Expenditures	<u>4,570</u>	<u>4,226</u>	<u>4,523</u>	<u>4,911</u>	<u>4,250</u>	<u>n.a.</u>	<u>-1.8</u> /b
Central Government Transfers	2,953	2,862	3,013	3,347	2,995	2,588	-2.8
Own-Resources Mobilization	1,617	1,364	1,510	1,565	1,255	n.a.	-6.1 /b
Memo Item:							
Central Government transfers (as % of Total at current prices)	64.6	67.7	66.6	69.1	70.4	n.a.	

/a Estimated.

/b For 1982/83 - 1986/87 only.

Source: Ministry of Finance; BPS; World Bank staff calculations.

**Annex Table 4: PROFILE OF PROJECTS FINANCED UNDER INPRES DATI II
(Transfers to District Governments) 1985/86-1987/88**

	1985/86	1986/87	1987/88
<u>Number of Projects</u>	<u>3,648</u>	<u>3,693</u>	<u>3,320</u>
<u>Total Cost (Rp Billion)</u>	<u>197</u>	<u>199</u>	<u>180</u>
% between:			
0 - 50 million	59.1	60.5	61.0
50 - 100 million	35.9	34.1	33.0
100 >	5.0	5.4	6.0
Total Mandays (million)	28.4	27.9	22.8
Total Labor Absorption (jobs 000's)	237	246	207
Average Wage per Manday (Rp)	1,976	1,997	2,236

Source: BAPPENAS

**Annex Table 5: DISTRIBUTION OF CENTRAL GOVERNMENT TRANSFERS
BY PROVINCE: 1982/83-1986/87
(Rp per capita, Constant 1983 Prices)**

	Routine		General		Sectoral		Total		Total	
	Transfers		INPRES /a		INPRES /a		INPRES /a		Transfers	
	1982/83	1986/87	1982/83	1986/87	1982/83	1986/87	1982/83	1986/87	1982/83	1986/87
Aceh	13,929	14,658	9,449	4,748	4,779	3,575	14,227	8,321	28,156	22,978
North Sumatra	13,080	14,501	4,491	2,251	3,859	3,287	8,351	5,538	21,411	20,039
West Sumatra	13,068	13,644	6,921	3,651	5,266	3,303	12,188	6,954	24,252	20,598
Riau	14,574	12,370	7,505	3,835	4,601	3,837	12,108	7,671	28,680	20,041
Jambi	17,936	13,778	10,613	5,509	6,383	5,982	18,996	11,491	34,933	25,267
South Sumatra	11,059	9,265	5,348	2,727	4,983	3,738	10,331	6,465	21,390	15,730
Bengkulu	14,608	17,019	18,256	9,103	7,732	6,048	25,988	15,151	40,597	32,170
Lampung	6,911	9,779	4,398	2,541	3,470	2,378	7,867	4,919	14,778	14,698
Jakarta	12,371	15,125	3,426	2,070	764	1,208	4,190	3,278	16,561	18,403
West Java	8,920	9,989	2,487	1,325	2,855	1,880	5,322	3,205	14,242	13,194
Central Java	11,958	11,758	2,734	1,397	2,658	1,899	5,391	3,297	17,350	15,053
Yogyakarta	15,335	16,874	6,297	3,548	2,555	1,752	8,852	5,300	24,188	22,174
East Java	9,899	10,510	2,594	1,358	2,118	1,632	4,712	2,990	14,611	13,501
West Kalimantan	11,311	12,657	10,078	4,677	6,824	5,855	15,902	10,532	27,213	23,188
Central Kalimantan	16,708	18,683	15,609	7,450	9,187	10,182	24,796	17,632	41,502	36,315
South Kalimantan	13,475	16,601	8,590	4,795	5,932	4,694	14,522	9,488	27,997	26,089
East Kalimantan	14,253	19,183	12,229	6,297	7,202	6,480	19,431	12,777	33,684	31,960
North Sulawesi	26,465	22,296	8,102	4,573	5,387	4,925	13,470	9,498	39,935	31,794
Central Sulawesi	21,250	18,398	11,898	6,345	8,570	4,599	20,468	10,944	41,715	29,341
South Sulawesi	18,256	14,511	3,900	2,181	5,222	3,163	9,122	5,344	27,377	19,855
Southeast Sulawesi	16,537	19,182	14,652	7,544	10,932	4,754	25,584	12,297	42,121	31,479
Bali	13,928	16,086	6,811	3,913	4,410	2,397	11,221	6,310	25,149	22,395
West Nusa Tenggara	12,509	12,378	6,263	3,409	4,428	4,099	10,690	7,508	23,199	19,886
East Nusa Tenggara	15,997	16,708	6,876	3,722	6,916	5,990	13,791	9,712	29,788	26,421
Maluku	18,313	14,000	11,650	6,188	5,239	9,708	16,889	15,896	35,201	29,896
Irian Jaya	51,435	29,340	12,821	6,427	7,514	12,151	20,335	18,578	71,771	47,917
East Timor	n.a.	10,508	30,380	16,116	8,513	9,164	38,893	25,280	n.a.	35,786
Average	15,925	15,357	8,191	4,292	5,376	4,597	13,567	8,888	29,492	24,245

/a These data have been adjusted to reflect actual provincial receipts, based upon the ratio of budgeted to actual expenditure data.

Source: BPS, State and Local Government Financial Statistics.

BAPPENAS.

World Bank Staff Calculations.

Annex Table 6: IMPORT AND EMPLOYMENT COEFFICIENTS /a

	Imports /b	Employment /c
<u>Productive sectors</u>	<u>0.71</u>	<u>0.14</u>
Agriculture	0.45	0.22
Industry	0.87	0.09
Mines	0.97	0.06
<u>Economic infrastructure</u>	<u>0.69</u>	<u>0.23</u>
Irrigation	0.50	0.31
Energy	0.79	0.16
<u>Social sectors</u>	<u>0.44</u>	<u>0.45</u>
<u>All sectors</u>	<u>0.57</u>	<u>0.33</u>

/a Aggregations are based on the plan allocations for REPELITA IV.

/b Coefficients show the import requirements (in Rupiah) per Rupiah of development expenditures.

/c Coefficients show the labor requirements (in man-years) per million Rupiah of development expenditures (in 1980 prices).

Source: World Bank staff estimates, see, Indonesia: Policies for Growth and Employment, World Bank, Report No. 5597-IND, April 23, 1985, p.79.

Annex Table 7: ALLOCATION OF DEVELOPMENT EXPENDITURES/a
(Percent of Total)

	---- External ----		---- Domestic ----		---- Total ----		---- Provincial ----	
	1982/83	1987/88	1982/83	1987/88	1982/83	1987/88	1982/83	1986/87
Agriculture	<u>6.6</u>	<u>18.6</u>	<u>24.5</u>	<u>24.2</u>	<u>18.8</u>	<u>21.1</u>	<u>19.4</u>	<u>13.8</u>
Agriculture	4.2	10.6	3.6	11.3	3.8	10.9	6.4	5.2
Irrigation	1.2	3.5	6.8	7.3	5.0	5.2	12.7	8.5
Transmigration	0.7	1.2	9.5	3.6	6.7	2.2	0.3	0.1
Resource and environment	0.5	3.3	4.7	2.0	3.3	2.7	0.0	0.0
Infrastructure	<u>44.9</u>	<u>39.6</u>	<u>20.1</u>	<u>33.0</u>	<u>28.1</u>	<u>36.6</u>	<u>23.3</u>	<u>25.1</u>
Energy	27.1	18.8	6.4	9.7	13.0	14.8	0.7	1.0
Transportation and communications	17.8	20.7	13.8	23.2	15.1	21.8	22.6	24.1
Industry and mining	<u>41.8</u>	<u>10.7</u>	<u>10.5</u>	<u>3.7</u>	<u>20.5</u>	<u>7.6</u>	<u>2.7</u>	<u>4.3</u>
Industry	18.5	4.3	4.1	1.1	8.7	2.9	0.7	0.6
Business development	2.5	4.1	5.9	1.6	4.8	3.0	1.9	3.7
Mining	20.8	2.2	0.5	1.0	7.0	1.6	0.0	0.0
Regional development	<u>0.1</u>	<u>0.1</u>	<u>1.6</u>	<u>1.3</u>	<u>1.1</u>	<u>0.6</u>	<u>0.0</u>	<u>0.0</u>
Human resources development	<u>3.8</u>	<u>25.5</u>	<u>27.6</u>	<u>25.6</u>	<u>20.0</u>	<u>25.6</u>	<u>24.8</u>	<u>27.4</u>
Education and manpower	1.4	17.9	18.4	15.0	12.9	16.6	10.7	13.0
Health	0.8	0.3	3.8	3.6	2.8	1.8	3.2	3.2
Population and social welfare	0.5	0.6	2.2	2.2	1.6	1.3	8.7	8.7
Housing and water supply	1.1	6.7	3.8	4.9	2.6	5.9	2.2	2.5
General services	<u>2.7</u>	<u>5.5</u>	<u>16.7</u>	<u>12.3</u>	<u>11.5</u>	<u>8.5</u>	<u>29.8</u>	<u>29.4</u>
Total	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Memo Item:

Share of Total
Financed From

External or

Domestic Sources /b

28	53	72	47	100	100	-	-
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/a Excludes development expenditures at district and village level, which have accounted for 7 to 8% of total development expenditures at all levels of government (i.e., Central, Provincial, District and Village).

/b The figure for 1987/88 for domestic sources includes expenditures financed by special local cost financing from external sources (e.g., Japan Exim Bank), and therefore, overestimates the share of domestically financed development expenditures.

Source: Ministry of Finance, B.P.S. and World Bank staff estimates.

Annex Table 8: TRENDS IN EMPLOYMENT: 1971-1985

	1971-80	1980-85
<u>Employment Growth (% p.a.)</u>		
Agriculture	1.30	1.88
Manufacturing	4.81	2.78
Trade/transport	4.97	5.05
Construction	8.60	3.18
Services	8.60	3.18
<u>Total</u>	<u>3.04</u>	<u>2.46</u>
<u>Share of employment growth(%)</u>		
Agriculture	26	43
Manufacturing	14	10
Trade/transport	24	35
Construction	7	4
Services	29	4
<u>Share of total employment (%)</u>		
Agriculture	67 <u>/a</u>	55 <u>/b</u>

/a For 1971, derived from 1971 Input-Output Table, BPS.

/b For 1985, derived from the 1985 SUPAS, BPS.

Source: World Bank staff calculations.

**Annex Table 9: ESTIMATES OF SOCIAL RATES OF RETURN
BY LEVEL OF EDUCATION, 1982 AND 1986**

Percentage	1982	1986
Some Primary (Male)	17	7
Some Primary (Female)	12	24
Primary (Male)	19	10
Primary (Female)	17	14
Junior Secondary General (Male)	12	19
Junior Secondary General (Female)	14	25
Junior Secondary Vocational (Male)	11	6
Junior Secondary Vocational (Female)	13	24
Senior Secondary General (Male)	23	19
Senior Secondary General (Female)	11	22
Senior Secondary Vocational (Male)	19	6
Senior Secondary Vocational (Female)	4	14
Teacher Training, Secondary (Male)	23	..
Teacher Training, Secondary (Female)	10	..
Commercial Training (Male)	24	..
Commercial Training (Female)	17	..
Academy (Male)	10	22
Academy (Female)	11	20
University (Male)	10	9
University (Female)	9	10

Source: Estimates cited in Martin Godfrey, "Repelita V Position Paper: Education and Training;" Development Studies Project (DSP) Special Paper No. 4; May, 1988.

**Annex Table 10: UTILIZATION OF MODERN PROVIDERS BY LEVEL OF EDUCATION
(Rate /a per Year)**

	None	Some primary	Primary completed	Secondary or more	Total
<u>Hospital Admissions /b</u>	<u>7.04</u>	<u>9.65</u>	<u>11.75</u>	<u>21.14</u>	<u>19.71</u>
Government Hospitals	6.10	8.23	9.26	16.96	16.13
Private Hospitals	0.94	1.42	2.49	4.18	3.58
<u>Outpatient Visits /c</u>	<u>0.380</u>	<u>0.432</u>	<u>0.467</u>	<u>0.567</u>	<u>0.452</u>
Government Hospitals	0.023	0.023	0.042	0.071	0.037
Private Hospitals	0.003	0.004	0.006	0.012	0.006
Health Centers	0.224	0.252	0.241	0.234	0.239
Private Clinics	0.001	0.003	0.005	0.005	0.003
Doctors	0.044	0.065	0.088	0.186	0.088
Paramedics	0.084	0.086	0.085	0.060	0.080

/a Based on one-month recall.

/b Per 1,000 persons.

/c Per person.

Source: 1986 Household Health Survey.

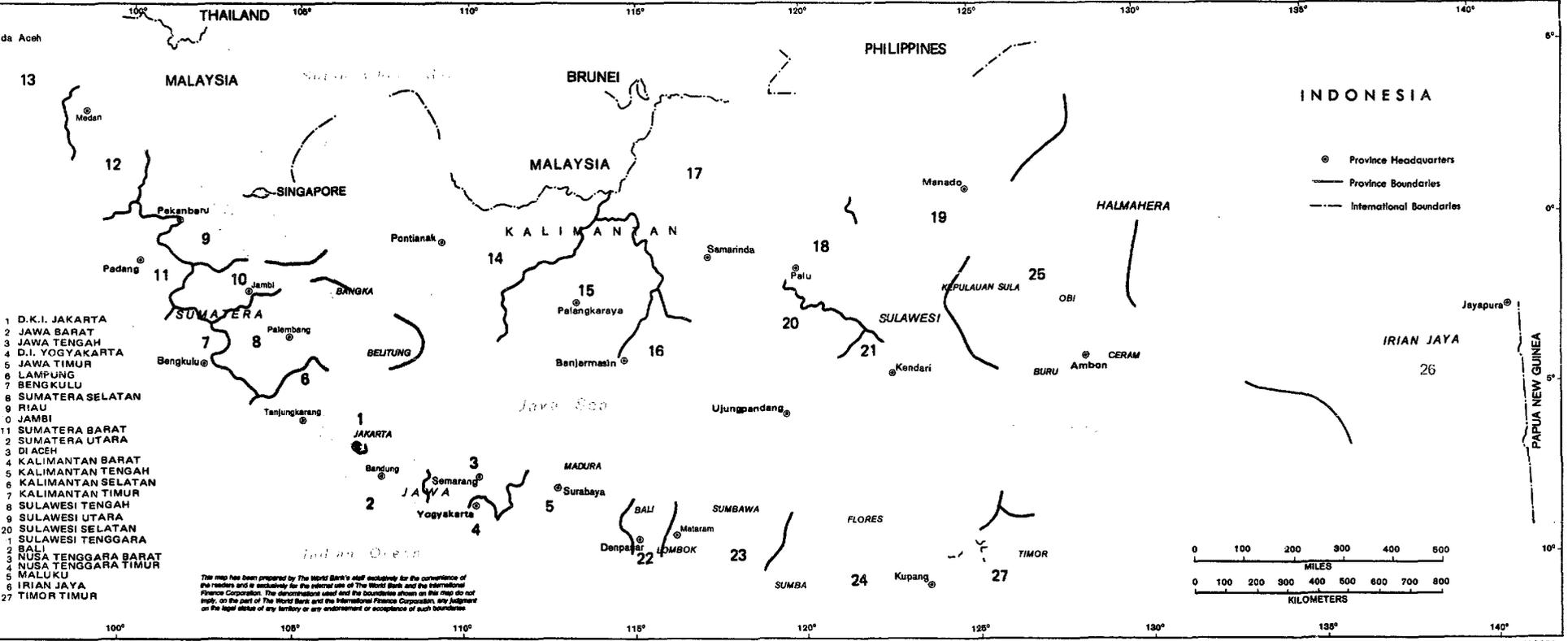
Annex Table 11: PREVALENCE OF PEM BY SUBDISTRICT IN THREE PROVINCES /a

Province	District /b	Highest		Lowest		
		Subdistrict	%	Subdistrict	%	
Central Java	Wonosobo	Kaliwiro	18.60	Kretak	4.54	
	Temanggung	Kandangan	6.34	Tretop	1.50	
	Sragen	Gondang	6.35	Jenar	0.00	
	Semarang	Bawen	13.21	Jambu	2.85	
	Pemalang	Watukumpul	8.22	Comal	1.80	
	Pekalongan	Tirto	25.40	Keesi	2.68	
	Pati	Jaken	11.40	Jakenar	0.00	
	Magelang	Kajoran	25.70	Mertoyudan	0.94	
	Kodya Tegal	Tegal Barat	2.62	Tegal Timur	2.51	
	Klaten	Kemalang	13.20	Cawas	0.46	
	Kebumen	Karanggayam	19.24	Pejagoan	2.30	
	Kodya Magelang	Kagelang Utara	0.89	Magelang Sealt.	0.63	
	Karang Anyar	Jatiyoso	6.53	Matesih	0.47	
	Boyolali	Sambi	12.40	Simo	0.92	
	Banjarnegara	Mandiraja	26.20	Klampok	2.16	
	Kudus	Bae	18.70	Kota	0.45	
	South Sulawesi	Wajo	Takalilla	4.86	Maniangpajo	0.45
		Takalar	Galut	8.40	Polut	2.35
		Soppeng	Majoriawa	5.36	Lalabata	0.00
Sinjai		Sinjai Tengah	10.00	Sinjai Barat	0.60	
Pinrang		Lembang	9.03	Mattirobulu	0.00	
Maros		Camba	13.00	Mandai	1.85	
Gowa		Bungaya	24.20	Sombaopu	2.51	
Enrekang		Baraka	6.97	Maiwa	3.10	
Bone		Duabopccoe	21.80	T. Siatingae	0.88	
Barru		Mallusetasi	3.15	Tompubulu		
West Sumatra	Agam	Lubuk B.	15.18	Palembayan	0.00	
	Tanah Datat	Tanjung Emas	34.10	Salimpuang	2.40	
	Solok	Gunung Talang	32.23	Bukit Sundi	4.76	
	Kodya Padang	K. Tengah	26.81	Lb. Begalung	0.43	
	Kodya Bukit Tinggi	Guguk P	6.24	M.Kt. Slaya	0.00	
	Kodya Padang Panjang	P. Panjang Ba	1.27	P. Pangjang Ti	1.00	
	Pesistir Selatan	Pancung Soal	10.46	Koto IX t.	2.25	

/a Second and third degree malnutrition of children aged 6-36 months using height-for-age.

/b Information is only available for about one-half of the districts in each of the three provinces.

Source: Nutritional Status Monitoring System (NSMS).



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

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