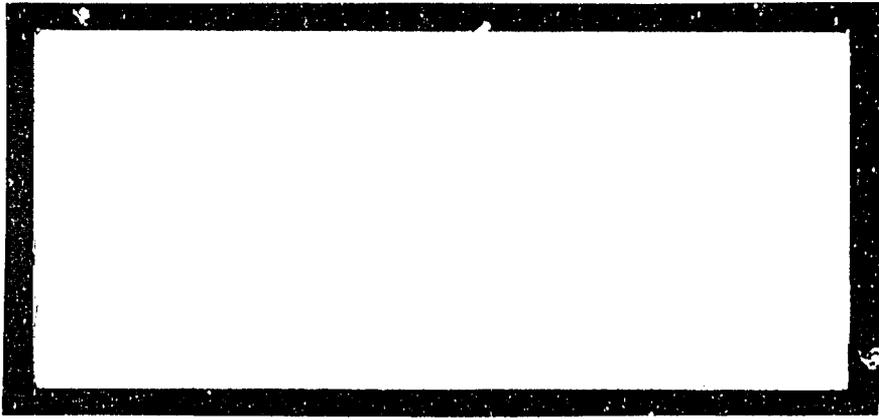


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PN-AR-098

**A Review of
"Social, Economic and Political Trends in the
the Developing World: The Context for U.S.
Development Assistance in the 1990s"**

by

John Stover

October, 1988

Prepared by

Center for Research on Economic Development

In partial fulfillment of

Contract #PDC-0180-0-00-8121-00

Bureau of Program and Policy Coordination

U.S. Agency for International Development

Social, Economic and Political Trends in the Developing World:
The Context for U.S. Development Assistance in the 1990s

John Stover

OVERVIEW

This is essentially a background paper which provides statistics and "describes the broad forces for change taking place in the developing world." In particular, Stover discusses demography, health, urbanization, agriculture, education, and political trends.

HIGHLIGHTS OF PAPER

Demography. The major challenge in implementing new population programs is shifting to Africa. These programs will require a significant amount of foreign assistance, especially in the early stages.

Health. Until a few years ago, trends toward improving life expectancy and infant mortality were generally expected to continue through the 1990s. Now, the looming threat from AIDS requires a reassessment of these projections. The disease creates severe development problems in that most areas of Africa are not equipped to provide the needed patient care. Stover states that the cost of treating 10 AIDS patients in the U.S. may be as great as the entire budget of a large hospital in Zaire. AIDS may become the major development challenge of the 1990s.

Urbanization. The special problem of mega-cities will be emerging in the 1990s. Will they function as single cities or will they appear more a conglomeration of separate districts? Will they serve as breeding grounds of political turmoil or will they offer a quick path to development?

Agriculture. Future growth in agricultural production will depend on increasing yields on the current land base. Urban expansion in some countries may cause the loss of good agricultural land at the same time that it increases the demand for food in urban areas.

Labor force and economy. Rapid population growth during the 1980s has created large young populations in most developing countries. These people will be reaching labor force age during the 1990s and looking for jobs, which many economies may not be able to create. This employment challenge has been a major factor in leading a number of countries to adopt population programs to slow the relentless climb of new job requirements.

Education. The challenge is to balance the aspirations of students with the requirements of the economy, both in terms of numbers of graduates and specialties they pursue.

Politics and government. Some forces that seem likely to shape the political climate for development are: (i) continued influence of Moslem thought on the politics and development philosophies of predominantly Moslem countries; (ii) a continued struggle to complete the process of nation building in Africa; (iii) the emergence of new leaders in countries that have experienced long periods of unchanging leadership; and (iv) rapid shifts in policy in some countries caused by political instability.

Wild cards. These are additional factors which are uncertain but could profoundly affect future development efforts. They include biotechnology, microcomputers, space communications, robotics, superconductivity, privatization, and "millennialism" (reactions to the beginning of the next millennium).

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Social, Economic and Political
Trends in the Developing World:
The Context for U.S. Development
Assistance in the 1990s

Prepared by

John Stover
The Futures Group

the Project on Cooperation for International Development:
U.S. Policy and Programs for the 1990s

October 1987

Introduction

U.S. development assistance to developing countries has undergone major changes in focus and approach since the 1950s. These changes have been the result of several factors, the most important of which are

- Changes in our understanding of how the development process works and what role development assistance can play

- Changes in our perceptions of the role development assistance can play in advancing U.S. political interests

- Changes in the social, economic and political situations in developing countries.

As we approach the 1990s it is appropriate to consider how these conditions will shape the nature of assistance in next decade. The "Project on Cooperation for International Development: U.S. Policy and Programs for the 1990s" is designed to prepare for the 1990s by organizing research and discussion that focusses on two of these themes:

1. The evolving needs of the developing countries in the changing circumstances of the 1990s.
2. The U.S. national interests in finding new patterns of development assistance.

This paper is intended to contribute to these themes by describing the important social, economic and political trends taking place in developing countries that will shape the context for development assistance. This paper does not attempt to provide forecasts of economic or social indicators but rather to describe the broad forces for change taking place in the developing world. Many of these forces will lead to a different

environment for development assistance in the 1990s than existed in the 1970 or 1980s.

Demography

One of the key determinants of conditions in developing countries has been the growth and distribution of population. Most of the developing world experienced relatively slow rates of population growth until the 1940s and 1950s. Until that time birth and death rates had both been high. Since then death rates have been reduced dramatically in many countries. The result was higher and higher growth rates as death rates dropped and birth rates remained high.

Family planning programs were introduced by some developing countries partially in response to these rising growth rates and partially to provide couples with the ability to obtain their desired family size and to attain the maternal and child health benefits of lower fertility and child spacing. These programs were adopted in the late 1960s and 1970s by many Asian countries, somewhat later by many Latin American countries and are just now being considered by a number of African countries.

Population growth contains a high degree of momentum. Changes in fertility and mortality tend to take place slowly and regularly. The 20 year lag between the time a woman is born and the time she enters into her main reproductive years means that, even when fertility does change rapidly, population growth rates

are slow to respond. For this reason the major demographic trends of the 1990s can be described with a greater degree of confidence than is possible for economic or social trends.

Figure 1 shows the number of people expected to be living in developing countries in 1990 and 2000 in each region of the developing world, outside China. (Throughout this paper the figures for Asia or the rest of Asia exclude China). Even excluding China and India, Asia will remain the most populous region of the developing world. India alone has more people than Africa, the Middle East or Latin America. Asia is the most populous region because of rapid growth in the past. Figure 2 shows that it will continue to be the fastest growing region in terms of numbers of people, adding twice as many as Sub-Saharan Africa and almost 7 times as many as Latin America.

From the perspective of development needs, the rate of population growth is just as important as the absolute amount of the growth, in some cases it is more important. Figure 3 shows that Africa and the Middle East will have far higher growth rates than India or the rest of Asia. Their high growth rates have resulted from reductions in mortality that have not yet been matched by reductions in birth rates, whereas in Asia birth rates have been reduced considerably in countries such as India, Indonesia, Thailand, Malaysia and the Philippines.

Fertility rates (the average number of live births per woman during her lifetime) have actually risen in some African countries, such as Kenya. The rise has been a result of the break

Total Population of Developing Regions 1990 and 2000

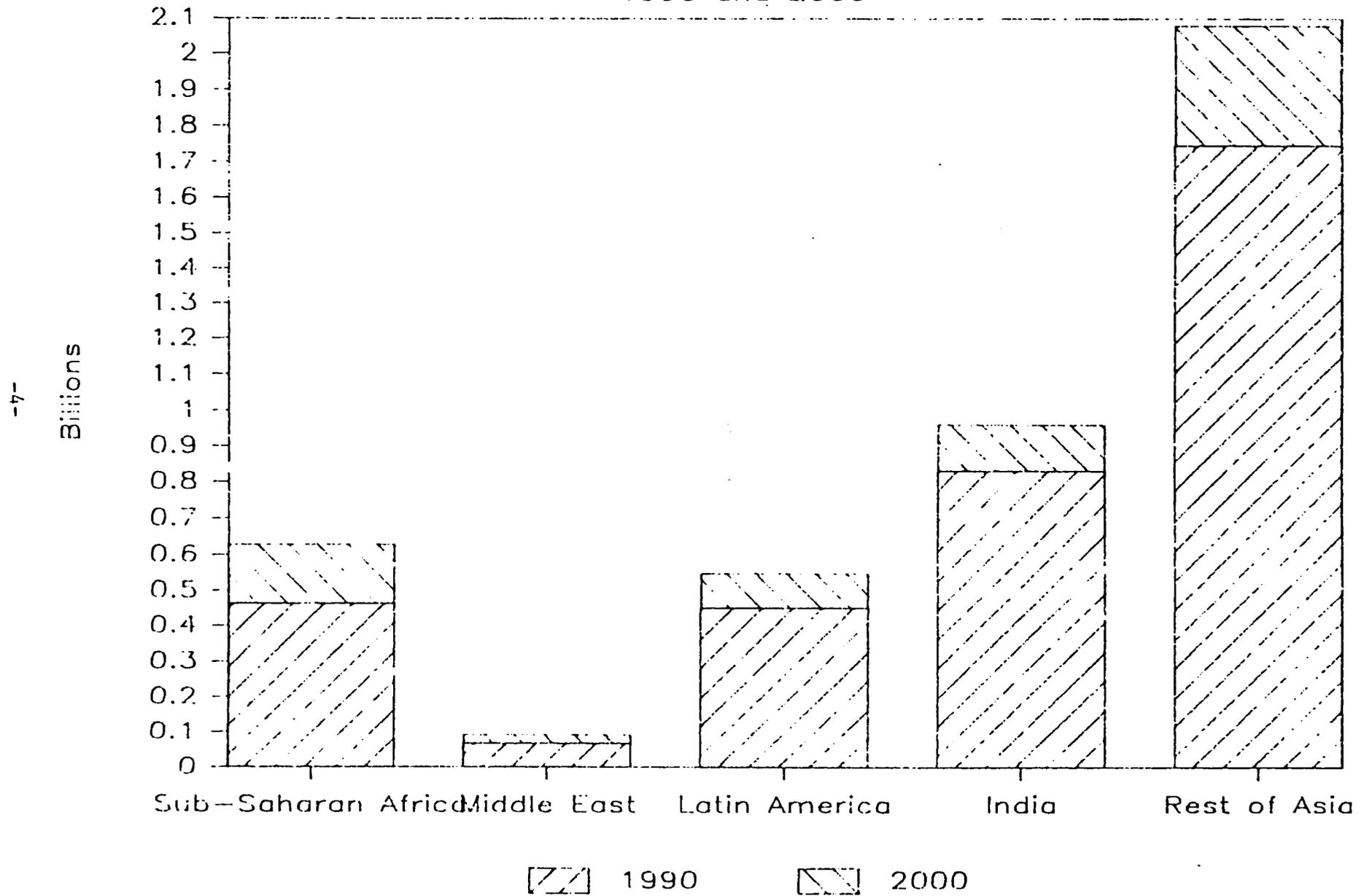


Figure 1

Growth of Population 1990 to 2000

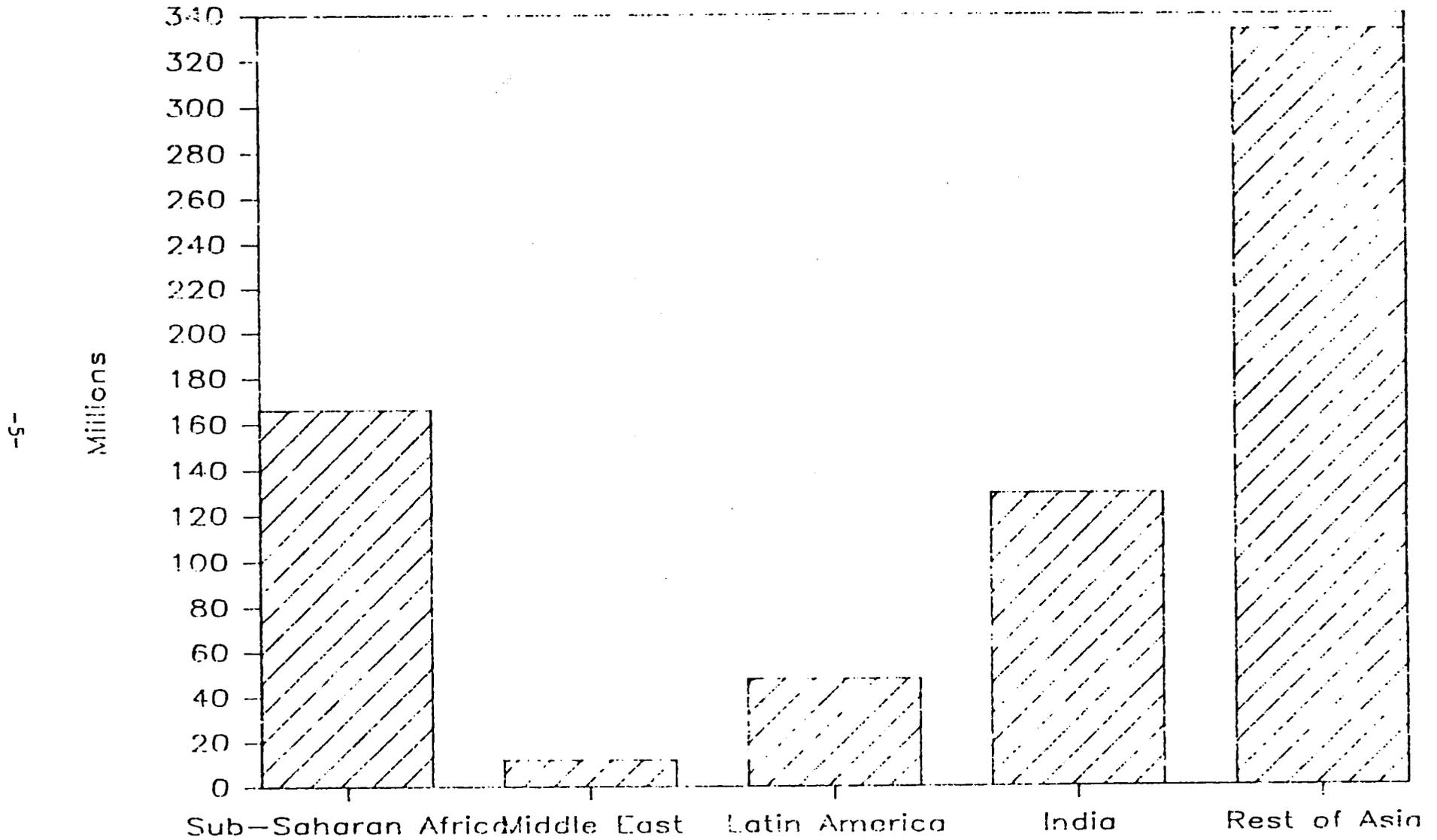


Figure 2

Annual Population Growth Rate 1990 to 2000

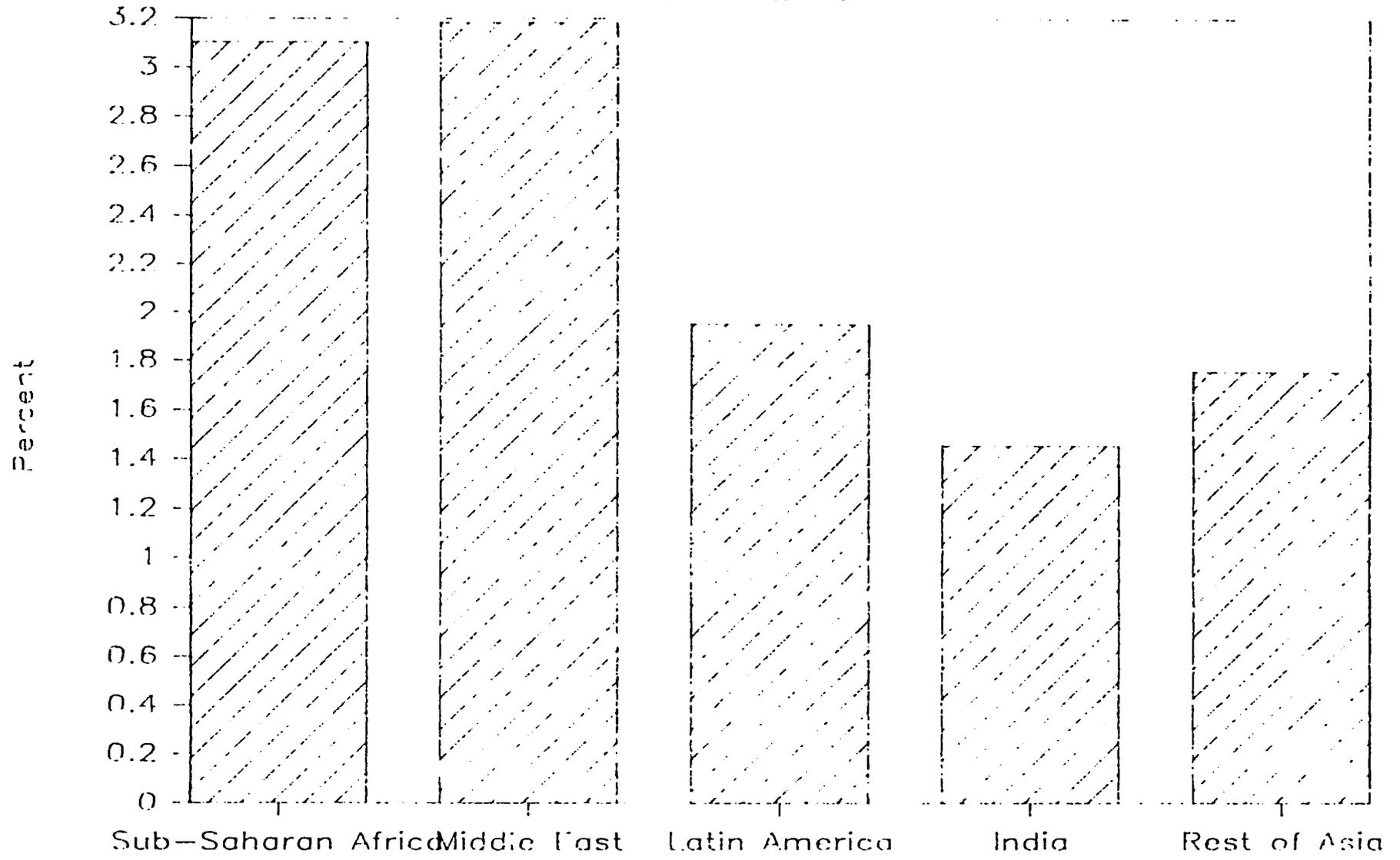


Figure 3

down of traditional customs such as breastfeeding and postpartum abstinence that historically have acted to limit fertility.

Table 1 shows the total fertility rate for individual developing countries. It shows clearly that in most African countries women average 6 or more births while in Asia and Latin America most average less than 5. These high fertility rates in Africa have several consequences. First, rapid population growth will continue into the 1990s. Second, the large number of births will mean that the African population will be composed of a relatively large number of young children. Third, the health problems associated with high fertility (high infant and maternal mortality and morbidity) will continue to be major development problems.

Figure 4 illustrates the position of a number of countries in the transition from high to low birth rates. The figure displays the crude birth rate (the number of births per 1000 population). It shows a clear distinction between those that have not yet begun the transition to lower rates (mostly African countries plus a few Asian and Latin American countries) and those that are experiencing birth rate declines (mostly Asian and Latin American countries).

Development assistance efforts to provide family planning services were concentrated in Asia and Latin America during the 1960s and 1970s. Now, these programs are reaching maturity in many of these countries. This maturity is characterized by a declining reliance on foreign donors to support family planning

Demographic Transition Among LDCs

Crude Birth Rate Declines

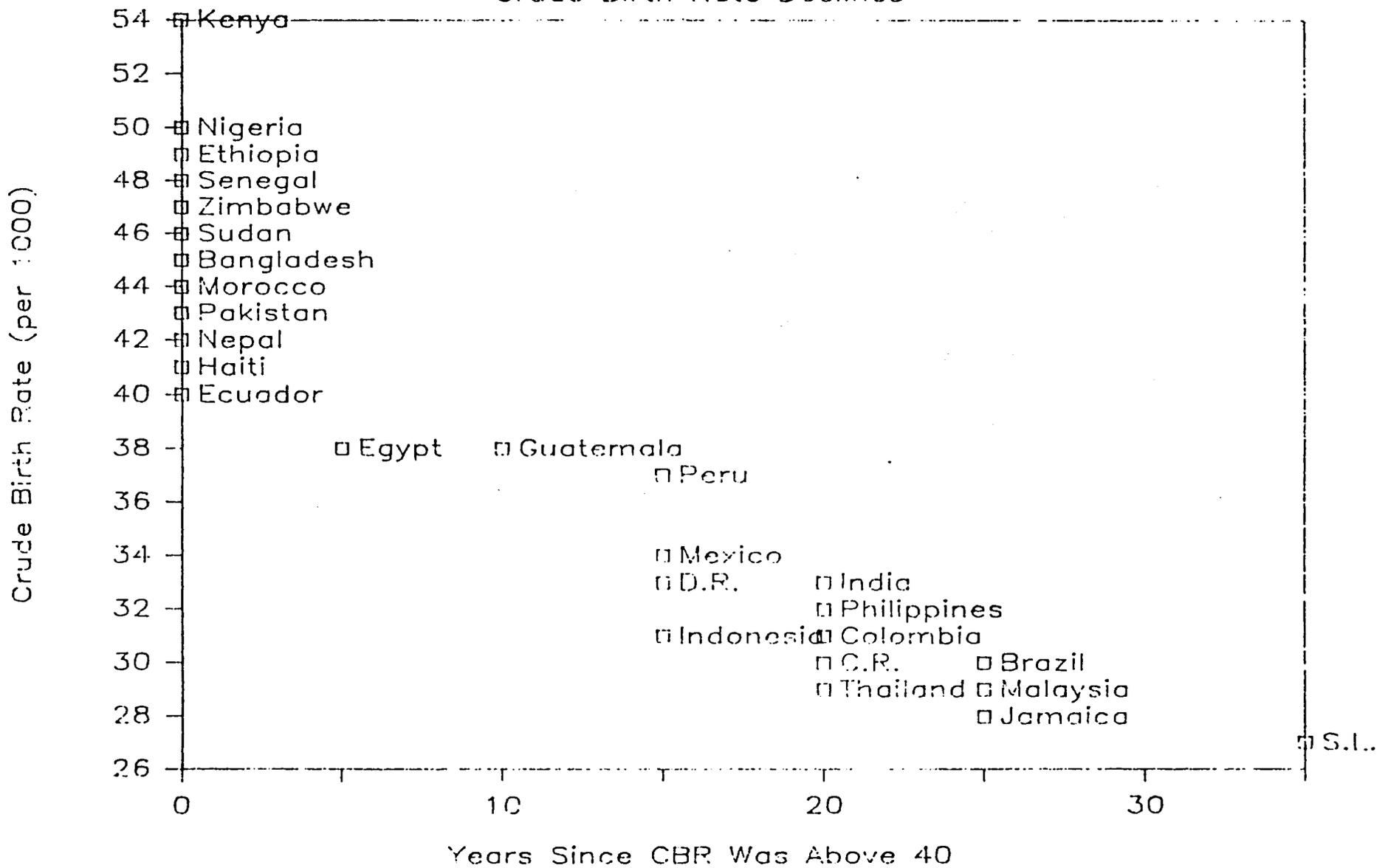


Figure 4

programs and a diverse mix of program types, including greater participation by the private sector in the provision of family planning services.

The major challenge in implementing new population programs is shifting to Africa. Several African countries have adopted population policies recently including Nigeria, Zaire and Liberia. Others are beginning to discuss for the first time the role that population programs can play in their development programs.

Clearly there is an important role that development assistance can play in helping these countries to develop and implement population programs. Figure 5 shows an estimate of public family planning expenditures by region during the 1990s. Even though there will be many more users of family planning in Asia and Latin America than in Africa those more mature programs have greater private sector participation. They are also more willing and able to cover some of the public costs from their own resources. In Africa, on the other hand, the beginning of widespread programs in many countries will require a significant amount of foreign assistance, especially in the early stages.

Health

Development assistance programs since 1950 have had a major impact on the health status of people living in the developing world. Figure 6 shows the increase in life expectancy at birth that has occurred since 1950 in all regions of the developing

Public Expenditures for Family Planning

Requirements for 1990-2000

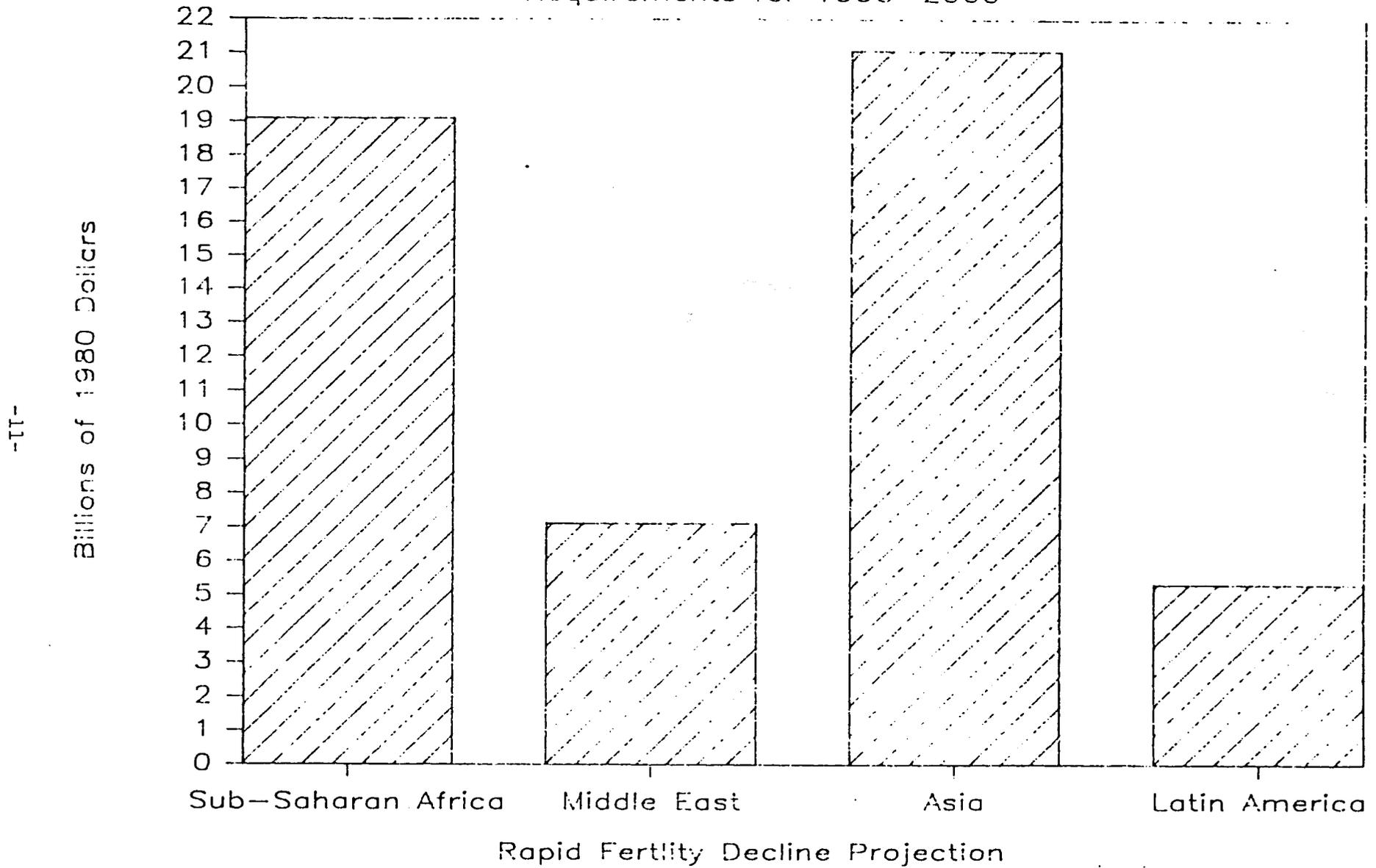
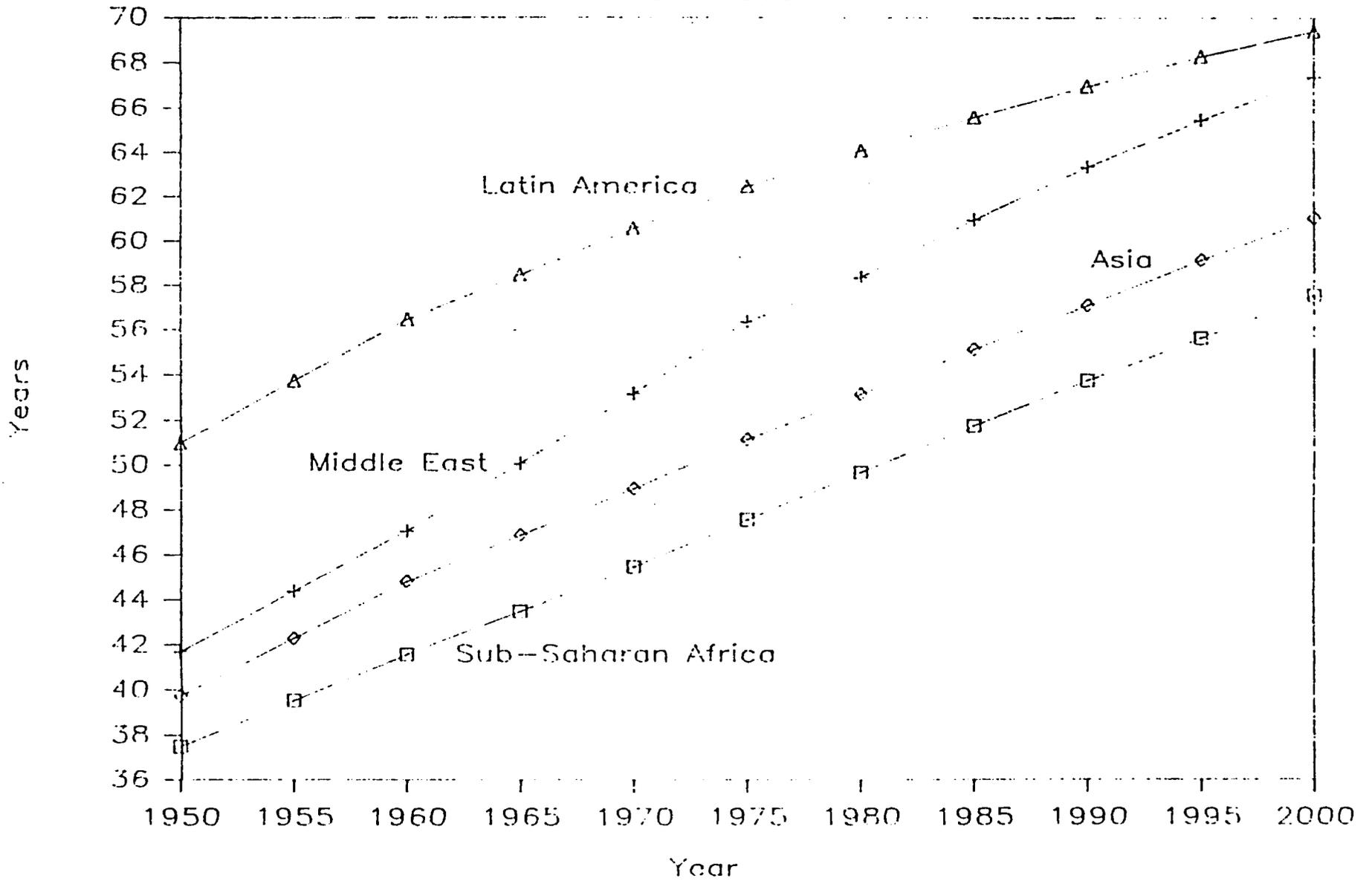


Figure 5

Life Expectancy at Birth

1950-2000



-12-

Figure 6

world. These improvements have been realized through the implementation of effective sanitation programs, improvements in nutrition in many parts of the world, the provision of basic health services to more and more people and the eradication or control of a number of key diseases.

The major factor in the improvement in life expectancy has been a reduction in infant mortality rates. This improvement is shown in Figure 7. The reduction began before 1950 for all regions except Sub-Saharan Africa and has continued steadily through the 1960s, 1970s and 1980s. The improvement in infant and child mortality rates has been aided by vaccination and immunization programs and, most recently, by oral rehydration therapy. If these trends continue, infant mortality rates will decline to as low as 40 infant deaths per thousand live births in Latin America and the Middle East and somewhat higher in Asia and Sub-Saharan Africa. In the industrialized countries today, infant mortality rates are typically around 12, so considerable progress remains to be made in the developing world.

Until a few years ago these trends toward improving life expectancy and infant mortality were generally expected to continue through the 1990s. Now, however, the looming threat from AIDS requires a reassessment of these projections. The World Health organization recently estimated that 10 million people are currently affected with AIDS. The most seriously affected areas are in Central Africa, although apparently AIDS is also spreading rapidly in large metropolitan areas in Latin America such as Mexico City and Rio de Janeiro.

Infant Mortality Rate 1950--2000

-14-

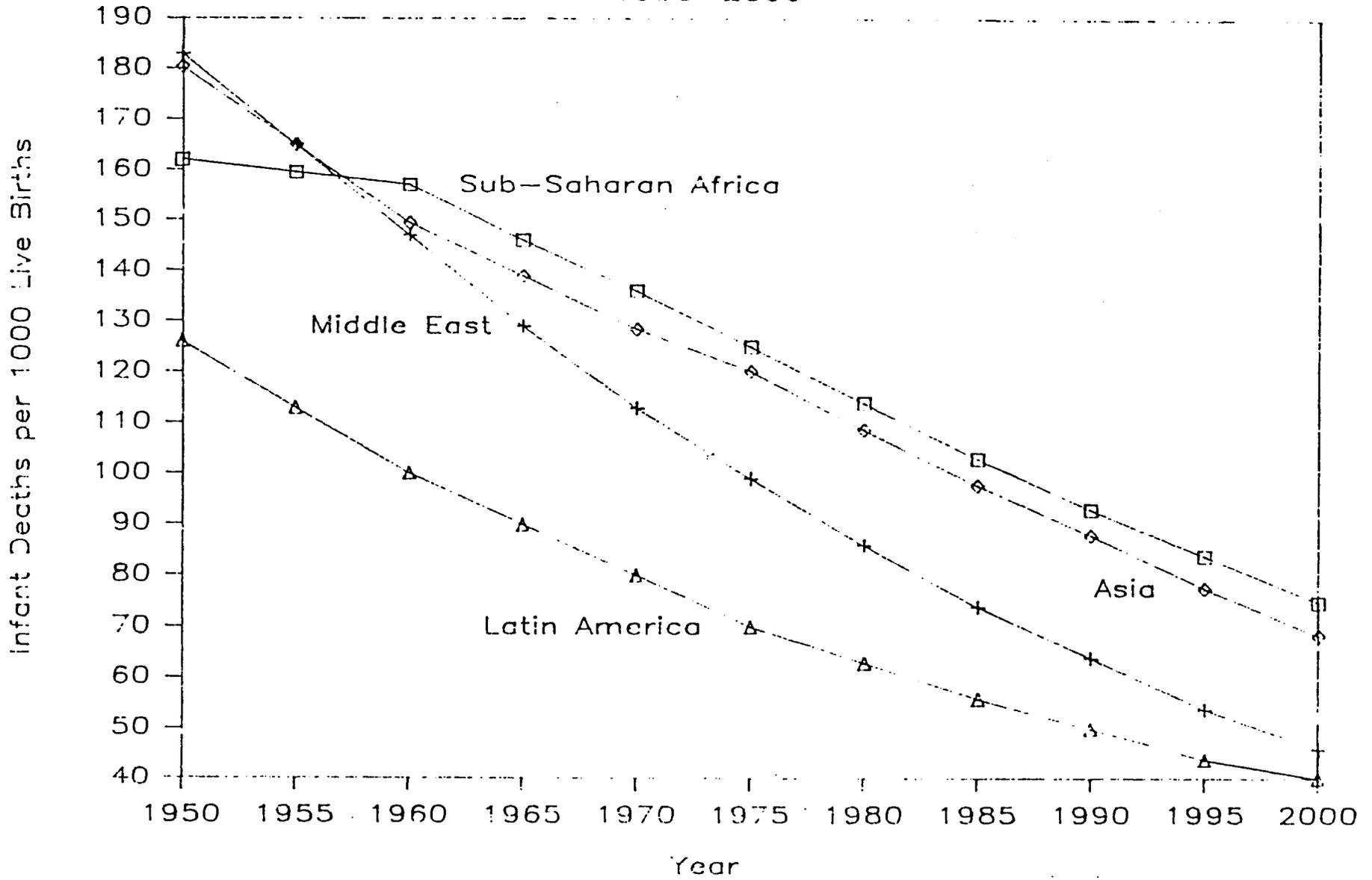


Figure 7

Statistics on AIDS are very uncertain. We do not really know how many people are infected. Nor do we know what percentage of infected people ultimately develop the full disease. Transmission patterns are also not well understood yet. Work on a vaccine is being conducted at an intensive pace but the prospects for an early breakthrough are hampered by the changing nature of the virus.

AIDS seems to have hit Central Africa hardest. It has now spread to some 30 African countries, but the most seriously affected appear to be Uganda, Rwanda, Burundi, Tanzania, Zaire and Zimbabwe. In Uganda the number of people with AIDS may be doubling every 4 to 6 months. The Ministry of Health there has said that if present rates continue half of all sexually active Ugandans may be infected by 2000. Today, possibly 15-25 percent of the adult population of Central Africa may be infected.

The nature of the AIDS disease creates severe development problems beyond the pain and suffering of the victims and their families. Most areas of Africa are not equipped to provide the intensive care that is provided in industrialized countries. The cost of treating 10 AIDS patients in the U.S. may be as ^{great} ~~large~~ as the entire budget of a large hospital in Zaire.

AIDS mostly attacks adults between the ages of 19 and 40. It is also concentrated in urban areas. Thus, high AIDS mortality rates would seriously affect the group of young educated professionals that nations are counting on to lead their

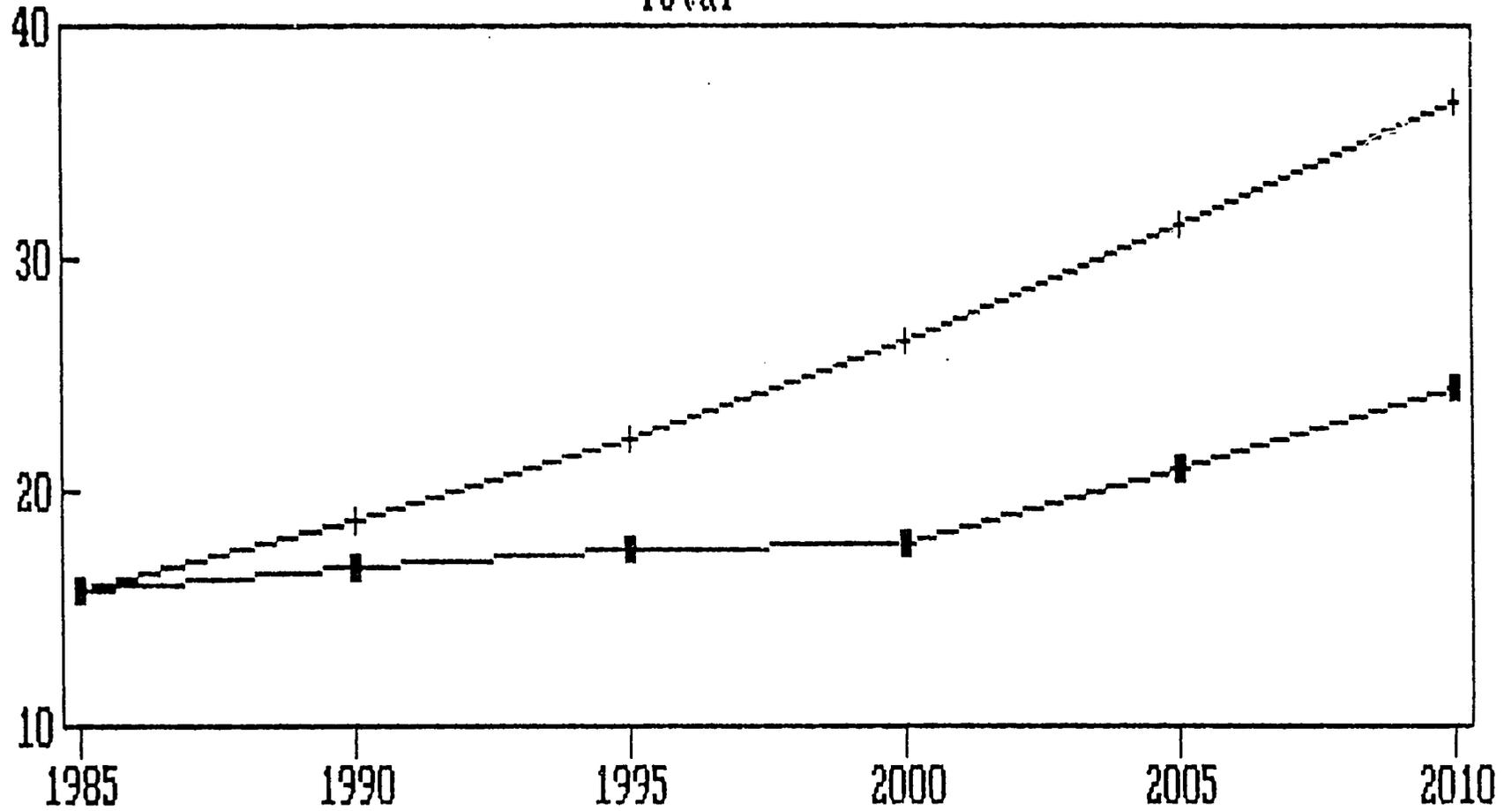
development efforts in the next several decades.

Figures 8 and 9 illustrate the potential problem of AIDS. Figure 8 shows two population projections for Uganda. The higher projection is the U.N. medium projection, which assumes a gradual decline in the total fertility rate and continued improvement in life expectancy. The lower projection uses the same fertility assumption but assumes a 25 percent mortality rate, due to AIDS, for the population aged 20-39 and increased mortality for the 15-19 age group and for children under 5. A cure for AIDS is assumed to become available in 2000. Although these assumptions are nothing more than guesses they serve to illustrate the magnitude of the impact. In the case of Uganda almost all growth in population would be eliminated.

Figure 9 shows the age specific impact. This population pyramid uses horizontal bars to indicate the number of people in each of the 5 year age cohorts. The outer lines represent the U.N. medium projection by the year 2000. Thus, under the U.N. projection there would be about 3 million children aged 0-4 by 2000. The solid bars show the projection with assumed AIDS mortality. The figure clearly indicates the large impact on the population aged 20-40. The reduction in the number of children is due to two factors: increased mortality among newborn children as AIDS is transmitted from mothers to newborns and the reduced number of births resulting from reductions in the number of people of reproductive age.

The AIDS situation is highly uncertain. It may be that once

Total Population
(Millions)
Total



□ = Uganda AIDS + = Uganda UN Medium Projection

Figure 8

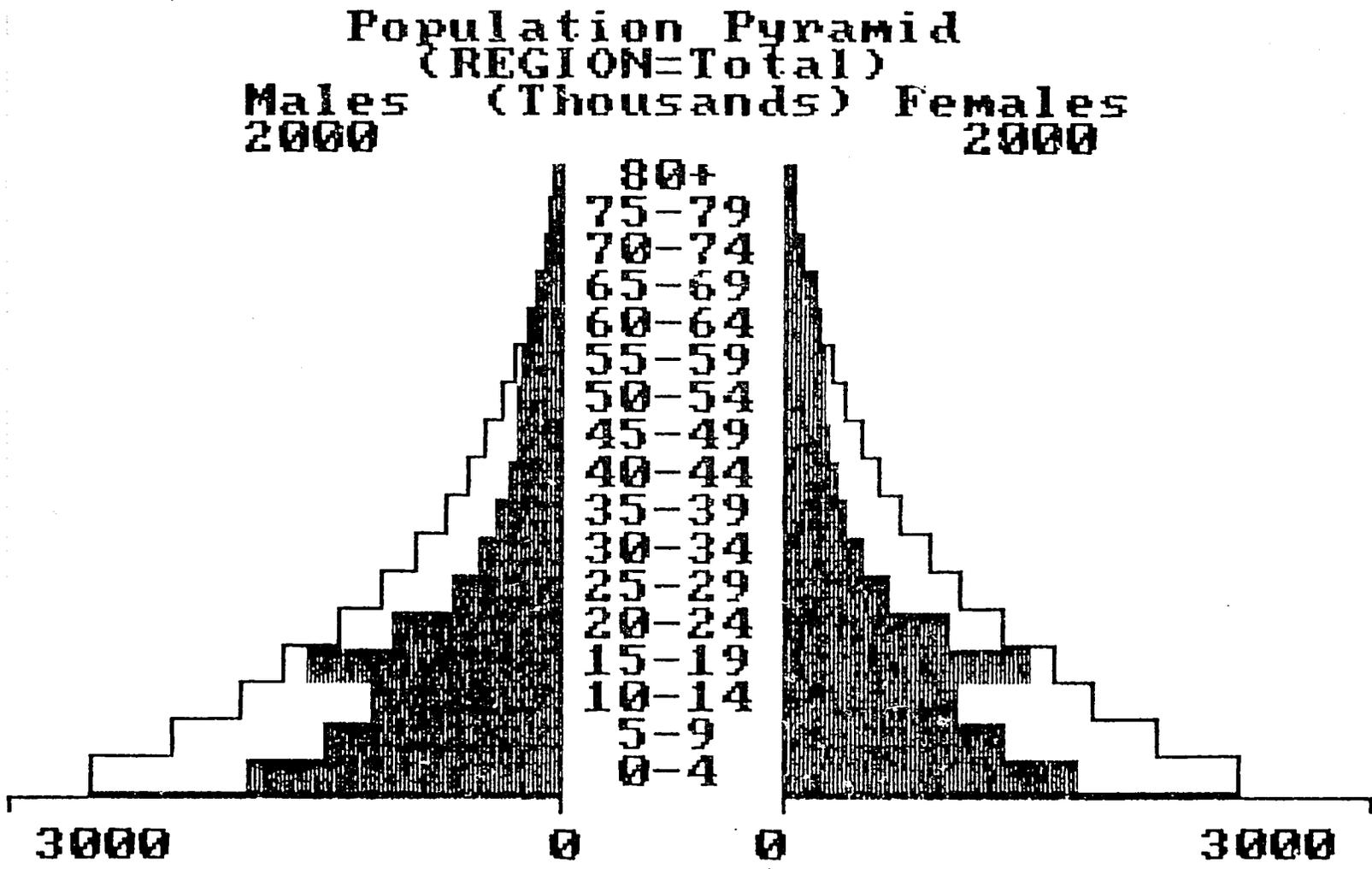


Figure 9

we understand the disease better and develop ways to educate people and, ultimately, to prevent it, the overall impact will be no more than that of any other major disease. On the other hand its impact could be devastating. There is the real potential for this to become the major development challenge of the 1990s. This could require the use of most of the available development resources to fight AIDS, to preserve life where we can, leaving few resources for other programs that are intended to improve the quality of life that exists today.

Urbanization

The population of the developing world is becoming increasingly urban. Figure 10 shows the trends in the percent of the population that lives in urban areas since 1950. This figure also includes projections to the year 2000. All four regions show increasing urbanization with the highest levels in Latin America and the Middle East. In fact urbanization has increased so rapidly in these two regions that more than half the population already lives in urban areas. For the world as a whole half of the population is expected to live in urban areas by 2000. For the developing world this point will be reached around 2015.

The countries with the fastest growing urban populations are shown in Table 2. As this chart shows, a number of countries in Latin America, Sub-Saharan Africa and the Middle East have urban growth rates of 3 to 4 percent per year. At these rates the urban population will increase by 30 to 50 percent during the 1990s.

Percent of Population in Urban Areas

1950-2000

-20-

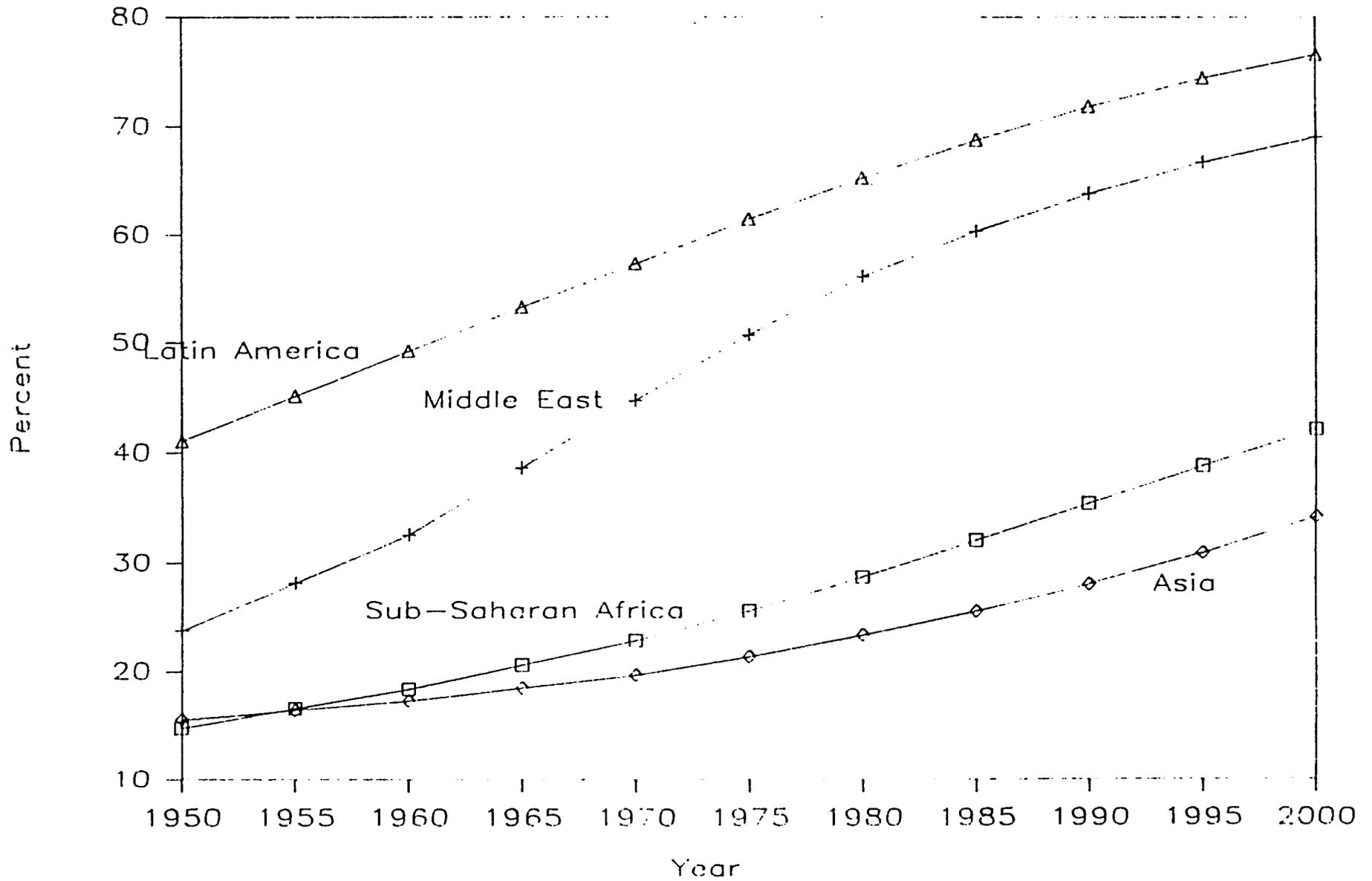


Figure 10

Table 2

URBAN GROWTH RATE 1990-2000
Percent per year

	Africa	LA	ME	Asia
4-5			Jordan	
3.5-4	Congo Ghana Kenya	Nicaragua	Syria	
3-3.5	Zimbabwe Cote d'Ivoire Uganda Tanzania Rwanda Nigeria Niger Cameroon	Honduras El Salvador Mexico Ecuador Paraguay I.R.	Yemen AR Morocco	Papua New Guinea
2.5-3	Madagascar Botswana Sudan Malawi Liberia Zaire Somalia Benin Burundi Senegal	Peru Jamaica Colombia Costa Rica	Tunisia Egypt	Malaysia Philippines Nepal
2.5-3	Mali Central Africa Chad Lesotho Mauritius Mauritania	Brazil Haiti		Bangladesh Sri Lanka India Indonesia
2-2.5	Sierra Leone Guinea Burkina Faso			Thailand
1-2		Uruguay		

Urbanization brings a mixed blessing to developing countries. On the positive side, cities of a certain size are necessary to achieve the economies of scale and critical mass that are necessary for some types of production (steel mills, automobile production) and for the economic provision of some kinds of services (modern hospital care, international financial and trading services). The modernization of individual attitudes and practices that comes with urbanization often plays an important role in development by affecting attitudes about education, family size, national identity, etc.

On the negative side rapid urbanization also creates numerous problems that may be beyond the capabilities of developing economies to solve. There are increasing requirements for urban infrastructure (housing, water, electricity, sewage, transportation) and the creation of modern sector jobs. There may also be serious problems related to pollution and crime. As the developing world urbanizes rapidly the focus of development assistance may have to shift more towards urban problems.

One of the special problems that will be emerging is the rapid increase in mega-cities. In 1950 there were only two cities with populations larger than 10 million, New York and London. By 1975 there were 7, with the addition of Los Angeles, Mexico City, Sao Paulo, Shanghai and Tokyo. By 2000 there will be 26 cities over 10 million. Most of these will be in the developing world, as shown in Table 3. If we consider cities over 5 million, there will be 58 by 2000 and again most will be in the developing

Table 3. Urban Agglomerations in Developing Countries
with Populations Greater than 5 Million by 2000

City	Population in 2000 (Millions)
Mexico City	26
Sao Paulo	24
Calcutta	17
Bombay	16
Shanghai	14
Buenos Aires	14
Teheran	14
Seoul	14
Rio de Janeiro	13
Jakarta	13
Delhi	13
Karachi	12
Cairo	11
Manila	11
Dhaka	11
Bangkok	11
Beijing	11
Tianjin	9
Lima	9
Madras	8
Bangalore	8
Lagos	8
Bogota	7
Baghdad	7
Lahore	6
Pusan	6
Shenyang	5
Santiago	5
Caracas	5
Belo Horizonte	5
Ahmedabad	5
Hyderabad	5
Kinshasa	5
Algiers	5

Source: The Prospects of World Urbanization, Revised as of 1984-85, United Nations, New York, 1987.

world.

There will be several truly large mega-cities in the developing world. Mexico City and Sao Paulo are both expected to have over 20 million by 2000. The list of cities over 15 million will include Rio de Janeiro, Bombay, Calcutta, Jakarta and Cairo.

We are just now beginning to have experience with cities this large. What special problems might be created by cities over 20 million in developing countries? Will they truly function as single cities or will they appear more as a conglomeration of separate districts? Will they serve as breeding grounds for political turmoil or will they offer a quick path to development? These and other questions will increasingly occupy the attention of planners and policymakers during the 1990s.

Agriculture

The growing urban populations will place an increased burden on agricultural systems to provide food. During the 1970s and 1980s this challenge has not been well met. As figure V.1 shows, increases in per capita output from 1974/76 to 1982/84 averaged only about 2 to 4 percent. In Sub-Saharan Africa population growth outstripped food production leading to a decline in per capita production of 8 percent. There were success stories, however. For example, India increased per capita production by 10 percent during this period.

The lack of more rapid increases in agricultural production

lead to increasing needs for food from external sources. Figure 11 illustrates cereal imports in 1974/75 and also in 1983/84. The developing countries classified as Upper Middle income by the World Bank lead the way in cereal imports because of larger demand associated with higher incomes and because they were able to pay for imports.

Figure 12 shows the situation for food aid during the same period. The largest share of food aid went to the Low Income and Lower Middle Income groups. Since the populations of these countries are still growing quite rapidly, even larger quantities of food aid may be required in the 1990s unless agricultural production can be stimulated to grow faster than it has in the past.

Growth in agricultural output has historically resulted from increases in the amount of land under cultivation. Now, however, most of the suitable land is already being cultivated. In fact, in many countries, agriculture has expanded onto land unsuitable for cultivation, resulting in low yields and environmental damage, especially deforestation and erosion.

Future growth in agricultural production will depend on increasing yields on the current land base. New high yielding varieties of many crops have helped to increase yields dramatically in some cases over the last 20 years. More work needs to be done in this area, especially to produce new varieties of crops that are the staples in Africa. In addition, more intensive use of fertilizer, pesticides and insecticides and

Food Production per Capita

Percent Change 1974--76 to 1982--84

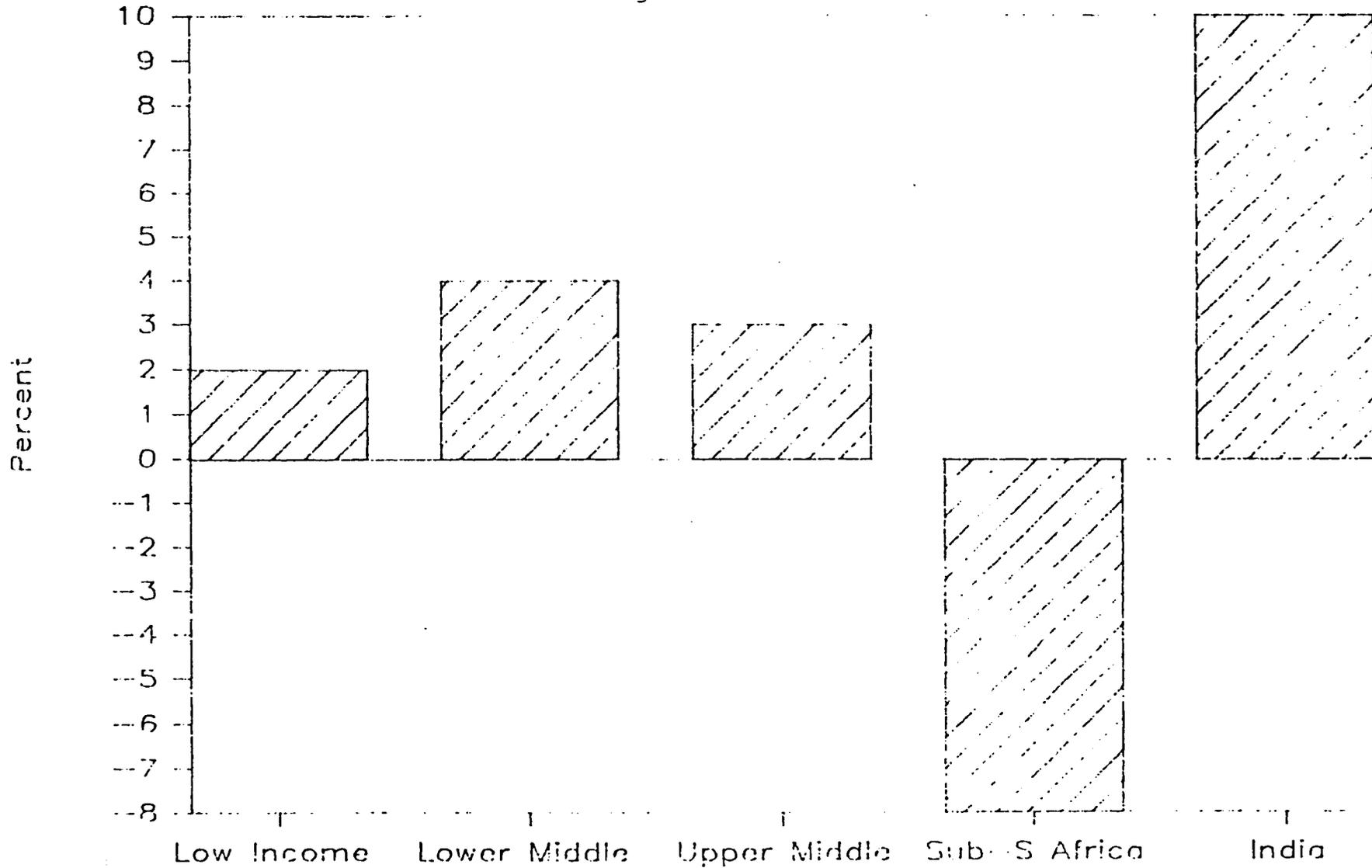


Figure 11

Food Aid in Cereals

1974/75 and 1983/84

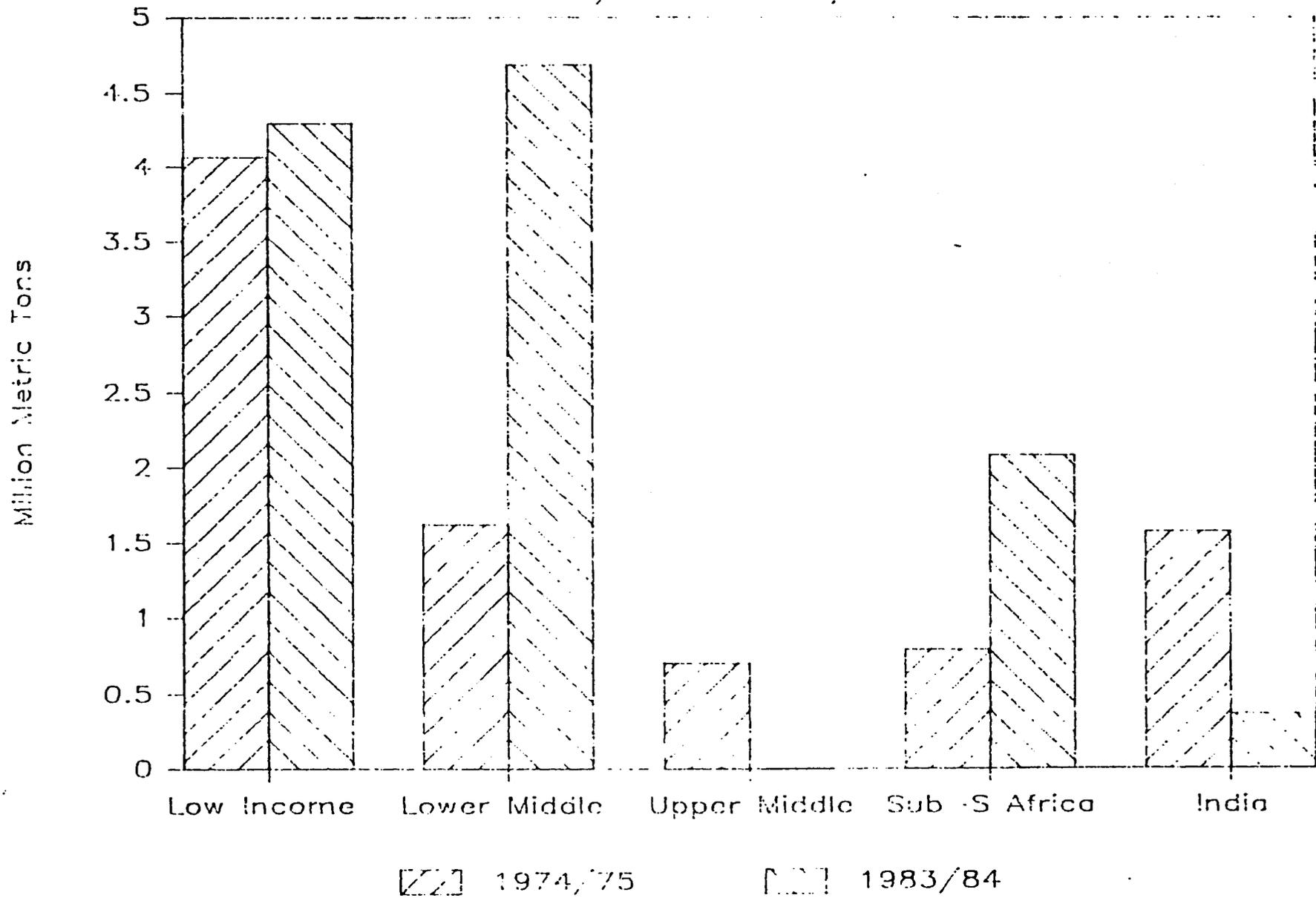


Figure 12

irrigation will be required. This will generate increased needs for improved farm management practices and wider availability of credit facilities.

There is an additional link between urbanization and agricultural production that is a particular problem in some countries: the loss of agricultural land due to urban expansion. Figure 13 illustrates this problem in Egypt. The upper circle is a processed Landsat satellite photograph showing urban and agricultural land in a 10 kilometer radius around the Egyptian delta city of Tanta in 1972. The urban area is represented by the dark shading. By 1982 the urban areas had tripled, resulting a a loss of good agricultural land. A projection to 2000 shows that the area would be almost 50 percent urban by that time. Thus urban expansion may cause the loss of good agricultural land at the same time that it increases the demand for food in urban areas.

Labor Force and Economy

Rapid population growth during the 1980s has created large young populations in most developing countries. These people will be reaching labor force age during the 1990s and looking for jobs. The creation of large quantities of new jobs for these young people may be beyond the capabilities of many economies. Table 4 shows expected annual labor force growth rates for a number of developing countries from 1980 to 2000. Most will be experiencing labor force growth rates above 2.5 percent per year and many will have growth rates of 3-4 percent.

Cereal Imports

1974 and 1984

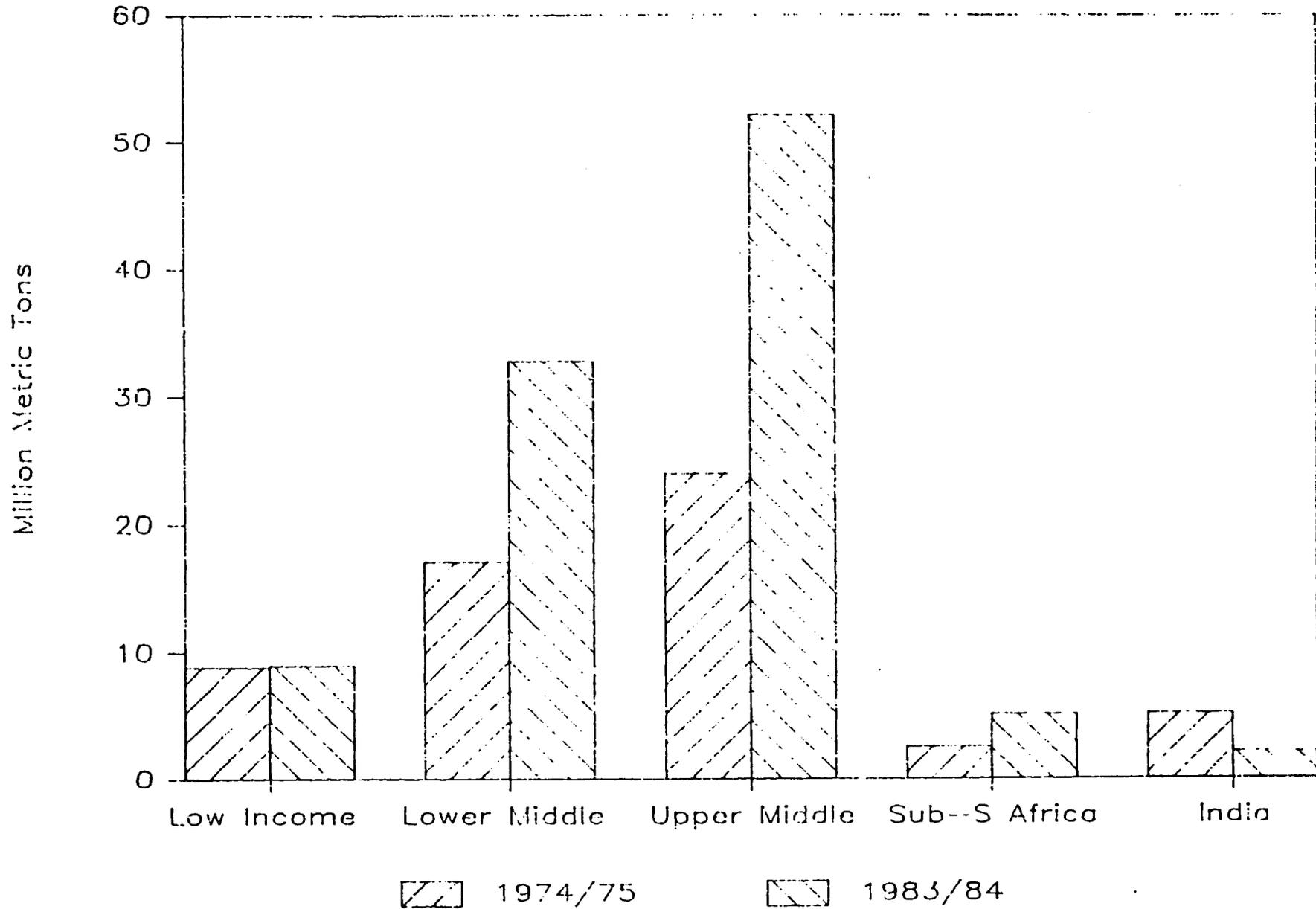


Figure 13

Table 4

LABOR FORCE GROWTH RATE 1960-80
Percent per year

	Africa	LA	ME	Asia
4-5			Jordan	
3.5-4	Ghana Kenya	Nicaragua	Syria	
2-3.5	Cote d'Ivoire Tanzania Nigeria Niger Cameroon	El Salvador Mexico Paraguay D.R. Ecuador	Morocco	Papua New Guinea
1.5-2	Madagascar Sudan Mali Liberia Zaire Benin Senegal Burundi	Guatemala Colombia Costa Rica Jamaica	Tunisia Egypt	Peru Nepal Philippines
2-3.5	Mali CAF Chad Lesotho Mauritania	Brazil Haiti Chile		Bangladesh Sri Lanka Indonesia India
1.5-2	Sierra Leone Guinea Burkina Faso			Thailand
0-1		Uruguay		

The challenge in job creation is a serious one. The current failure of most economies to create productive jobs is evidenced by the large numbers of underemployed workers in the developing world. ILO estimates place underemployment as high as 20 to 40 percent of the labor in some countries. Thus the future challenge of providing jobs for young people entering the labor force will be compounded by the backlog of existing underemployment.

This employment challenge has been a major factor in leading a number of countries to adopt population programs in order ^{to} ~~the~~ slow the relentless climb of new job requirements. However, there is a lag of 15 to 20 years from the time that birth rates begin to fall until the effect is seen in fewer labor force entrants. For those countries that began their program in the 1980s, the benefits in labor force growth will not appear until after 2000.

This problem has political as well as economic ramifications. If jobs are not available for young people the potential for political turmoil may be heightened. Coupled with rapid urbanization, joblessness could lead to increased crime and political disturbances.

Although the developing world has experienced some impressively high rates of economic growth during the last three decades, these growth rates are not enough to eliminate poverty even if continued into the next decade.

The World Bank classifies low income countries as those that have GNP per capita levels less than \$450. There were 39

countries in this category in 1985. If each country in this group continued to grow at the same rate as the average annual growth rates for the period 1965-1984, then only 6 countries out of the 39 would graduate to the status of Lower Middle Income countries. The six that would graduate as Rwanda, China, Kenya, Sri Lanka, Sudan and Pakistan.

For the 39 countries in the Lower Middle Income group (GNP/capita between \$450 and \$1700) only 9 would graduate to the Upper Middle Income group under this assumption. They are Botswana, Congo, Ecuador, Turkey, Paraguay, Tunisia, Colombia, Jordan and Syria. None of the developing countries in the Upper Middle Income group (GNP/capita between \$1700 and \$4400) would graduate to More Developed status during this period. Thus, in this sense the 1990s will look much like the 1980s.

Education

Improvements in primary education have been remarkable during the last two decades. Figure 14 shows the primary enrollment rates for in 1965 and 1985. Even in the low income countries enrollment rates are approaching 80 percent. During the 1990s those countries that have not yet achieved universal primary enrollment will be striving to do so. Female enrollment has traditionally lagged male enrollment, but the gap is closing rapidly in many countries.

The emphasis will probably be shifting during the 1990s from

Primary Enrollment Rates

1965 and 1983

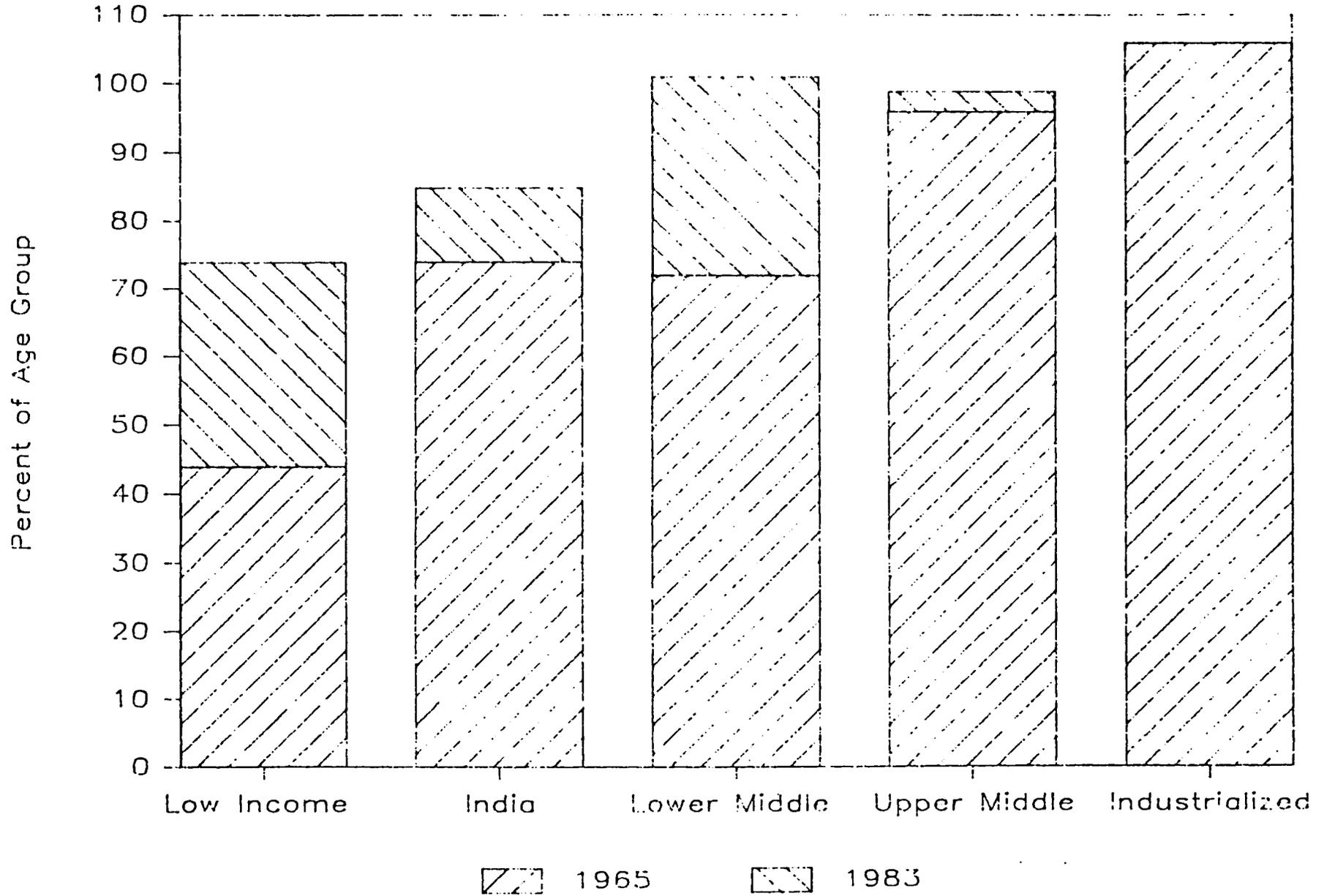


Figure 14

increasing enrollment rates to improving the quality of primary education. There is a need to make primary education more relevant to the needs of developing country situations. There is also a need for increased vocational training after primary.

Secondary enrollment rates have also increased during the last two decades although at a slower pace and from a much lower base. With primary enrollment rates near 100 percent for many countries the focus is likely to shift to increases in secondary and vocational education. The challenge will be to provide relevant education at enrollment rates that are balanced to the needs of the economy. Several countries, such as Egypt, have already experienced the problems that can come from graduating more secondary and university level students than the economy can absorb. The result is often pressure to provide government jobs even if the pay is low and there is nothing for the new employees to do. On the other hand, a well trained labor force is essential for continued economic growth. The challenge is to balance the aspiration of students with the requirements of the economy, both in terms of numbers of graduates and specialties that they pursue.

Politics and Government

Political trends certainly play a major role in setting the climate for development assistance. The 1980s have seen a number of political trends that have profoundly affected development efforts. Among them are:

-Military regimes yielding to democratic governments in Latin America. Among the countries where the military was replaced by democratic governments are Argentina, Bolivia, Brazil, El Salvador, Honduras and Peru, and Uruguay. The 1960s and 1970s saw the change go in the opposite direction so there is no guarantee that the current trend will continue through the 1990s, however, it does mean that the decade will likely start with a predominance of democratic or partially democratic governments in place.

-Peaceful change in leadership in many African countries. There have been many violent regime changes in Africa during the last two decades. However, one striking fact of the 1980s has been the peaceful changes that have taken place in many countries from the leaders who guided their countries to independence to the next generation of leaders. Examples of independence leaders who were peacefully succeeded include Ahidjo of Cameroon, Senghor of Senegal, Kenyatta of Kenya and Nyerere of Tanzania.

-The rise of Moslem fundamentalism. In the Middle East, Afghanistan, the Philippines, Pakistan and other countries the trend toward Moslem fundamentalism has had a major impact on political conditions and, in many cases, development conditions. One example is the institution of Moslem banking laws in Pakistan.

-The fall of several powerful individuals. A powerful leader can not only control the political climate in his country but often also closely controls the development agenda as well as often by setting the development philosophy that will be followed. The 1980s saw the fall of a number of individuals who had been a part of the development process for a long period. Examples include Indira Gandhi in India, Anwar Sadat in Egypt, Ferdinand Marcos in the Philippines and Jean-Claude Duvalier in Haiti.

As we look to the 1990s it is impossible to predict the political trends that will shape the climate for development. However, some forces that do appear likely are:

-A continuation of the influence of Moslem thought on the politics and development philosophies of many countries with large Moslem populations.

-A continued struggle to complete the process of nation building in Africa. Although some countries have been able to maintain political stability and smooth governmental transitions others have been beset by frequent coups or civil wars. These problems are likely to continue to influence development efforts, at least during the first part of the decade.

-The emergence of new leaders in countries that have experienced long periods of unchanging leadership. Purely on the basis of age alone we can expect to see major changes. Among the current leaders who are relatively advanced in age now or would be by the year 2000 are Castro (Cuba), Houphouet-Boigny (Cote d'Ivoire), Lee (Singapore), Kaunda (Zambia), Khomeini (Iran), Mobutu (Zaire), Pinochet (Chile), Suharto (Indonesia) and Stroessner (Paraguay).

-Some countries will be plagued by political turmoil while others will remain relatively stable. The effectiveness of development efforts are often severely affected when political turmoil causes delays in programs and rapid shifts in policy. Among the countries that now appear to have a high likelihood of political turmoil during the 1990s are Bolivia, Chile, Colombia, El Salvador, Ecuador, Egypt, Guatemala, Guinea, Haiti, Nicaragua, Nigeria, Peru, the Philippines, Sri Lanka, Sudan, Zaire and Zambia.

Wild Cards

In addition to the demographic, social and political trends that will shape the developing world context for development assistance, there may well be a number of additional developments with important implications. A few of these are listed below. They are termed "wild cards" since none of them are certain to happen but each could profoundly affect future development efforts. Among the potential wild cards for the 1990s are:

-**Biotechnology.** This is one of the hot new fields in science that offer major benefits to developing countries. The use of genetic engineering techniques to unravel the secrets of disease and create custom-designed organisms offers tremendous promise is used wisely. The impacts on health are just being felt in the industrialized world. In the developing world the most promising developments appear to be the possibility of creating vaccines against widespread diseases. Most of the activity now focuses on developing a vaccine for malaria. Field trials are now being planned for Thailand and Papua New Guinea. If the development of a malaria vaccine succeeds, the search will expand to other diseases that have so far eluded our efforts at containment. Biotechnology also offers great promise in the field of agriculture. Here the focus is on altering the genetic make-up of crops or animals to provide new benefits. Among the possibilities are the transfer of nitrogen fixing capabilities to corn or wheat, improving disease resistance in almost any crop, tailoring specific crops to local growing conditions, improving the protein content of cereal crops, and producing high yielding strains of cattle and fish.

-**Microcomputers.** The spread of inexpensive, fast and powerful microcomputers may create a kind of second industrial revolution. It has already transformed the work place in the industrialized world and is beginning to affect activities in the developing world as well. The real impact in the developing world will result from new applications of this technology. This might include the use of expert systems and artificial intelligence as well as the use of automatic control systems for small units that were previously uneconomic, such as such as the control of micro-hydroelectric generators. The potential in education and training applications is enormous.

-**Space communications.** The use of satellite transmission to provide inexpensive communications to any part of a country could have major implications for communications and education in developing countries. For example, it could change the way school classes are conducted by allowing the country's best teachers to teach every student in the country for several hours each day through transmission from the capital city to television sets in classrooms throughout the countryside. We have not yet begun to explore how improved communications between urban and rural centers might affect such things as the urban bias in development programs or rural to urban migration.

-Robotics. The use of robots in manufacturing is having far-reaching effects in the industrialized world today. Many of the most versatile robots can be programmed to perform a wide variety of assembly and testing tasks. There is a vigorous debate raging among economists and technologists about the long-term impact of such changes. Will robots replace humans on the production line and in the office and, thereby cause massive unemployment? Or, will the use of robots result in massive increases in worker productivity and lead to greater incomes and rapidly expanding new markets, much as the introduction of machines did during the industrial revolution?

-Superconductivity. Superconducting materials are those that can conduct electricity with no resistance, leading to no loss of power and no associated heat build-up. Previous to 1987 the only materials that were superconducting needed to be cooled to near absolute zero, requiring elaborate equipment to maintain such low temperatures. Recently, however, progress has been explosive in the search to find materials that are superconducting at higher temperatures. Now, there is hope that we may soon discover materials that are superconducting at room temperatures. If this becomes a reality it could mean inexpensive transmission of electricity throughout rural areas in developing countries. Among the other potential applications are magnetically levitated trains, practical electric cars, and more efficient and cheaper small electrical devices of all kinds.

-Privatization. Privatization is currently one of the fads in development. It is being widely talked about and privatization schemes are being developed and implemented widely. So far, however, most schemes have not gone very far, because some governments are concentrating on selling off only the unprofitable operations that no one really wants. If privatization were implemented in a sweeping fashion so that governments retained only those functions that must be performed by a central authority it would have a major impact on economic development and the ways in which development assistance is carried out. However, this seems unlikely to occur in the present context.

-Millennialism. The end of the 1990s will be marked by the beginning of the next millenium. The coming of the year 1000 created the occasion for all kinds of religious and cult movements to flourish. Given the vast scope of world communications today there is certainly the possibility for similar occurrences on a global scale as we approach 2000. We can only speculate whether these movements, if they occur, will take the form of religious revivalism, new forms of religion, new forms of personal philosophies or new movements for or against technology, humanism, sex, natural foods, education or space travel.