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***THE STATE OF THE DEMOGRAPHIC TRANSITION  
IN AFRICA***

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## EXECUTIVE SUMMARY

### **A. Background**

Africa is a region with the highest population growth rates in the world. The growth rates in the region range from 2.2 per cent to 2.8 per cent, compared to 1.4 per cent and 1.7 per cent for the world as a whole. But Africa is also the poorest region of the world. The Human Development Report of 2001 indicates that out of 36 nations in the world with low human development, 29 are in Africa and the rest are in Asia. Therefore, Africa, which has the most serious socio-economic problems in the world, is also the continent with the most challenging population problems. This study is consequently focussed on the challenge of dealing with the pace of population growth in the region by examining the state of the demographic transition in continent.

### **B. Theory of the demographic transition**

According to the theory of the demographic transition, the shift towards low mortality and fertility rates occurs when there is a process of overall modernization resulting from industrialization, urbanization, education, empowerment of women, and substantial overall socio-economic development. Such a shift, would lead initially to a drop in mortality through progress in hygiene and medicine and, subsequently, to a decline in fertility occasioned by economic growth. Giving mortality decline as a pre-condition for fertility decline forms the cornerstone of the theory. In this regard, the classical wisdom often describes infant mortality as a decisive factor influencing parents to reduce their fertility. The relationship of socio-economic development and fertility decline has also been the focus of many discussions. Although the theory has experienced a great deal of critical analysis, it has remained a useful framework for discussing the dynamics of fertility and mortality change in the world.

The theory is silent on the role of migration even though the experience of Europe has demonstrated that external migration may have provided a relief for internal population pressure. Europe, which experienced remarkable population growth in the nineteenth century, had the historic possibility of spilling over its surplus population through migration and transfer to the colonies. Currently, however, with so many restrictions on international migration, the opportunity of spilling over its surplus population to other regions through migration is not available to Africa.

### **C. Population dynamics in Africa**

Available literature shows that the relatively high levels of fertility still observed in Africa, especially Sub-Saharan Africa, have more to do with a combination of cultural and socio-economic factors which determine the attitudes and behavior of people towards procreation. The high incidence of fertility at least reflects that reproduction starts at young ages, age at first marriage is early, and contraceptives are not being used in a widespread and effective manner.

Africa has certainly experienced an initial phase of mortality decline which happens to have been sustained for more than-half a century. The mortality decline caused by economic and social progress was also related to advances in medical science, the improvement of hygiene and the reduction of infant mortality. The conclusions, however, are less consistent with regard to fertility trends where fertility has not decreased significantly in most African countries.

The high rate of population growth observed in Africa over more than half a century is, therefore, the result of a continuing decline in mortality and relatively high fertility. In the absence of a significant decline of fertility, Africa is the last region of the world to have embarked on the demographic transition. Given, however, the fact that the continent is experiencing declining

mortality (the likely reversals due to HIV/AIDS and the resurgence of malaria and tuberculosis notwithstanding), the question that arises is how can the transition be facilitated in Africa by accelerated fertility decline.

With regard to international migration, the paucity of statistics on the subject in Africa (mostly from censuses) and the irregularity of most of these movements do not allow us to make an accurate assessment of international migration. It is probably more substantial than the net negative migration rate of 0.1 per thousand estimated for the whole continent. But while all the estimates made to date on migration in Africa have invariably shown a net negative migration, the numbers of immigrants have been too few to have any impact whatsoever on the dynamics of domestic natural population change. Migration does not, therefore, have a noticeable impact on demographic change in Africa.

Africa's sub-regional diversity and disparities within nations make it hazardous to venture any general proposals and strategies for reducing fertility on the continent. But more recent experience of the demographic transition in Africa provides a good opportunity to understand the facilitating and constraining factors for the transition in the region. A review of the experiences of selected countries that are experiencing sustained mortality and fertility declines and those that are experiencing delayed demographic transition facilitates the identification of best practices and lessons learned. Identified best practices and lessons learned will be useful for advocacy and dissemination in member States. Their adaptation to specific country situations may accelerate the demographic transition and the achievement of lower population growth rates in the continent.

The data and resources available compelled us to make a selection of various African experiences in demographic transition. Accordingly, among the eight countries selected for the study, three of them (Botswana, Mauritius and Tunisia) are considered to have made a successful demographic transition by having reached the stage of sustainable fertility decline. This does not apply to the five other countries (Cameroon, Egypt, Madagascar, Mali and Nigeria) which are in the early stages of the transition.

#### **D. Best practices from African countries**

The decline in fertility in Mauritius is assumed to be the most rapid fertility decline in the world, at least at the national level. It is due to a number of factors including (1) the rapid transition in marriage patterns (marriage postponement); (2) the provision of basic education especially for women; (3) the peaceful co-existence between the religions and religious leaders and their flexibility on family planning issues; and (4) the strong family planning efforts based on a broad consensus and actively supported by government.

In the case of Botswana, fertility decline was largely rooted in the many pragmatic and positive policies pursued during the 1980s and 1990s. These policies include (1) the extension of social benefits in health and education to a wide spectrum of population; (2) investing in the key physical and institutional infrastructures to facilitate the delivery of services; (4) provision of universal and free primary education; (5) efforts to close the gender gap in accessing education and employment particularly for women; (6) promotion of a systematic and integrated health care system that incorporates preventive care, primary health care and family planning services including mother and child health; (7) integration of population factors into development planning at all levels including mechanisms to promote the coordination of the various intervention efforts undertaken by all institutions and the private sector; and (8) maintenance of relative peace, stability and democracy.

In Tunisia, the major factors leading to fertility decline are (1) the general improvement of the living standard; (2) the implementation of a clear, well-designed and well planned family planning and health programme; (3) support given to the population policy by relevant legislation

(such as abolishing of polygamy and legalizing divorce and abortion); (4) the political will given to the population policy at the highest level; and (5) the joint actions to raise the age at first marriage and the use of contraception.

#### **E. Constraints in countries undergoing delayed demographic transition**

In Cameroon, Mali and Nigeria the fertility rate is still higher than 5 children per woman, and somewhat lower in Egypt. The factors which explain the high fertility rates are (1) early marriages; (2) limited use of contraception; (3) high demand for children due to tradition, religion and high infant mortality; (4) the formulation and implementation of a multitude of programmes as well as involvement of a large number of institutions in population activities without effective co-ordination; (5) the persistence of customs and ancestral beliefs favouring large families, early marriages, and polygamy; (6) the need for more children to assist in food and livestock production; (7) the low level of education and limited access to health facilities due to inadequate infrastructure; and (8) lack of integration of population factors in development planning.

#### **F. Lessons from Asia**

Lessons from Sri Lanka and the Indian village of Kerala suggest that the demographic transition that occurred in parts of South Asia was generally a consequence of two major factors: an increase in age at marriage and control of marital fertility. The delayed age at marriage was a result of socioeconomic changes which were mainly a consequence of a better educational and health care system, while the control of marital fertility was a result of a well planned and carefully executed family planning programme. However, these factors were accompanied by other societal changes that reinforced their impact. Among these was the increasing centrality of the family, the increasing cost of living and the decreasing opportunities in agriculture.

#### **G. Lessons Learned on the demographic transition in Africa**

In the field of population, there are generally two major challenges for Africa. For countries such as Botswana, Mauritius and Tunisia, the challenge is to sustain the transition while avoiding lowering fertility below replacement levels. For countries which are in early stages of the transition, the challenge is for them to adapt and practice the lessons provided by Botswana, Mauritius and Tunisia. Lessons learned from South Asia reinforce some of the experiences that are taking place in Africa.

#### **H. The way forward**

The way forward should be focussed on the integration of population variables in national development plans, supporting late age at first marriage and the implementation of family planning programmes. Many family planning programmes have not achieved the desired results because of several reasons. These include:

- i) Limited choice and lack of female empowerment to make conscious decisions (mainly as a result of a psychological and cultural transition that is seemingly and intimately tied to education, especially female education);
- ii) The need to provide an environment in which reducing fertility must be advantageous (such as, for instance, reducing the high cost of education and increasing the desirability for education as a prerequisite for employment and careers); and

- iii) Inadequate provision of effective contraceptive techniques.

It is evident that the countries that have been successful in reducing their fertility and mortality rates met these preconditions. Together with these preconditions, the way forward is to formulate and implement population and development policies and strategies with the following components:

- i) Ensure that population measures or factors that are integrated into national development plans are empirically derived from proper population/development interrelationships;
- ii) Prepare realistic strategies that incorporate long-term national objectives derived from the global and regional frameworks such as the DND, ICPD-PA, Agenda 21, Habitat II, and World Food Summit Plan of Action;
- iii) Promote introduction of social and economic policies that provide sustainable livelihoods, reduce poverty, and provide alternatives to the demand for many children;
- iv) Define more accurate family planning programme objectives by carrying out a realistic assessment of the requirements and demands for the target population;
- v) Provide consistent support to the family planning programmes at the highest political level and financial support to the programmes;
- vi) Ensure legislation that plays a catalytical role and gives the programme a crucial legal framework;
- vii) Develop a meaningful information, education and communication (IEC) programme for the target populations including different social and professional categories and specific risk groups (such as adolescents, youths, and school girls);
- viii) Reduce the number of sectors involved in the implementation of these policies and strategies; and
- ix) Institutionalize a mechanism for effective monitoring, evaluation and co-ordination.

## I. INTRODUCTION

### A. Population and Development Situation

Since 1950, Africa has been the region with the highest population growth rates in the world with rates ranging from 2.2 per cent to 2.8 per cent compared to 1.4 per cent and 1.7 per cent for the world as a whole (United Nations, 2001). The population of Africa will nearly quadruple over the period 1995 to 2150 (increasing from 0.7 billion persons in 1995 to 2.8 billion in 2150). Within the same period, Europe's population will decline from 728 million in 1995 to 595 million in 2150, while the pace of change for the other regions will fall somewhere between these two extremes. Yet, in 1950, the population of Europe was more than twice that of Africa.

Africa is also the poorest region of the world. The Human Development Report of 2001 indicates that out of 36 nations in the world with low human development, 29 are in Africa and the rest in Asia (UNDP, 2001). The Human Development Index (HDI) ranges from 0.234 to 0.400 compared to the highest index of 0.856 in the world found in Norway. According to the Population Reference Bureau (2001), the per capita Gross National Income in purchasing power parity (GNI PPP) was US\$ 6650 in the World, US\$ 1799 in Africa, US\$ 31260 in North America, US\$ 6460 in Latin America and the Caribbean, US\$ 17880 in Oceania, US\$ 3930 in Asia, and US\$ 14970 in Europe. This again confirms that the region is the poorest in the world.

Thus, Africa, which has the most serious socio-economic problems in the world, is also the continent with the most challenging population problems. As UNFPA (1999) puts it, population is growing fastest in the poorest countries, those least able to provide for basic needs and create opportunities. In addition, Africa also faces rising mortality rates in countries affected by HIV/AIDS, internal instability, natural disasters and social disruption. Many of the countries worst affected by HIV/AIDS are among the poorest in the world, most affected by other diseases such as malaria and tuberculosis, least provided with basic health services, and most heavily dependant on outside help to combat diseases. The same countries are affected by political instability and refugee movements that cause grave social and economic disruptions. In many of these countries, internal migration has increased. This migration responds and further contributes to stress on the environment and on service delivery systems.

### B. Challenges

Under all likely scenarios, Africa's population will continue to increase rapidly at least during the first few decades of the 21<sup>st</sup> Century. This is because of the in-built momentum of growth associated with the very young age structure of most African countries. This growth will be fuelled by high fertility levels. Yet, population growth can be substantially lowered by investments in family planning and other reproductive health programmes, by investments in education particularly for women, and by greater economic opportunities for the youth and women.

The major challenge for African Governments, therefore, is what they can presently do to promote sustainable development in the region. How can they promote balanced development of the quality of life of an individual member of the population in an environment of sustainable use of natural resources? More specifically, what can they do in the area of population to deal with the challenges of:

- ❖ Reducing the pace of growth;
- ❖ Reducing maternal morbidity and mortality;
- ❖ Reducing infant and child mortality;
- ❖ Ensuring food security and good nutrition;

- ❖ Reducing illiteracy rates and increasing the provision of equitable basic education and building of skills;
- ❖ Dealing with the HIV/AIDS epidemic, other diseases such as malaria and tuberculosis as well as their health and socio-economic consequences;
- ❖ Dealing with the special needs of adolescents and youth;
- ❖ Empowering women and improving their status;
- ❖ Managing international migration;
- ❖ Providing old age security and alternative living arrangements for the elderly;
- ❖ Promoting good governance and reducing wars and civil conflicts which lead to large refugee movements and groups of internally displaced persons; and
- ❖ Promoting support mechanisms of family systems to cope with socio-economic changes and rapid urbanization.

In this study, the focus will be put on the challenge of dealing with the pace of growth by examining the state of the demographic transition in Africa.

### **C. Historical perspectives on population by African governments**

In the early years of independence the main concern of African countries was to give priority to nation building. Many of these countries underestimated the human resources dimension of development and had no political will to pursue population policies integrated into development planning. This is the most likely explanation for why a good number of objectives set in international strategies and development plans in past decades have not been achieved. These objectives include universal free education, health for all, improvement of the status of women, improvement of living standards, and checking the growth of unemployment (UNECA, 1996a)

Fortunately, the African position since then has gradually evolved towards better awareness of the problems created by rapid population growth. At the world population conference held in Bucharest in 1974, African Governments regarded population as an unimportant factor in development. But at Arusha, when they adopted the Kilimanjaro Plan of Action (KPA) for Africa on population in 1984, they unanimously recognized it as an important factor in development (UNECA, 1984). The pressures and constraints that rapid population growth imposes on development efforts and scarce available resources were clearly articulated in the Plan. Eight years later, the recommendations of the KPA were revisited and developed further in the 1992 Dakar/Ngor Declaration (DND) whereby African governments, for the first time, collectively committed themselves to quantified objectives for slowing down population growth in the continent and resolved to bring down the natural growth rate to 2.5 per cent by the year 2000 and 2.1 per cent by the year 2010 (UNECA, 1992; UNECA, 96b).

With regard to mortality rates, the DND objectives for the year 2000 and for Africa as a whole were to reduce infant mortality rates to less than 50 per thousand, child mortality rates to at least 70 per thousand, halve the 1990 maternal mortality rate and achieve a life expectancy at birth of at least 55 years (UNECA,1996b). The required reduction in fertility was expected to result from achieving the objective of doubling utilization rates of contraceptives within the region from approximately 10 per cent to 20 per cent by the year 2000, and 40 per cent by the year 2010.

The underlying assumption in setting these regional objectives was the need for the African people to commit themselves to an evolutionary process characterized by a significant reduction of mortality and fertility. Such demographic change (which first took place in Europe and the New World before spreading recently to the developing countries) was named the demographic transition. Nineteenth century Europe served as the laboratory for the design and development of

the theory. It provides a general framework for describing and explaining the passing of a given population from approximately stationary growth with high birth and death rates to a state of balance with low fertility and mortality rates and near-zero growth. In the intermediate phase, the population undergoes strong natural growth which slows down gradually until the final stage. According to the theory of the demographic transition, the shift towards low mortality and fertility rates occurs when there is a process of overall modernization resulting from industrialization, urbanization, education, empowerment of women, and substantial overall socio-economic development. Such a shift, would lead initially to a drop in mortality through progress in hygiene and medicine and, subsequently, to a decline in fertility occasioned by economic growth.

The theory is silent on migration even though the experience of Europe has demonstrated that external migration may have a regulating influence on population change. Indeed, Europe which experienced remarkable population growth in the nineteenth century, had the historic possibility of spilling over its surplus population through migration and transfer to the colonies. Currently, however, with so many restrictions on international migration, the opportunity of spilling over its surplus population to other regions through migration is not available to Africa.

#### **D. Overview of the Demographic Transition Patterns**

The demographic transition classifies populations by various combinations of fertility and mortality. One of the initial formulations of the demographic transition theory is credited to Blacker (1947) who defined five phases of population growth as follows:

- i) A stage of high fertility and high mortality characterized by a low population growth rate;
- ii) A stage of high fertility and high mortality with mortality beginning to decline and thereby generating increasing population growth rates;
- iii) A stage of declining fertility but sustained reduction in mortality with the latter declining at a faster rate than that of fertility and causing rapid population growth;
- (iv) A stage of demographic balance between low mortality and low fertility and, with it, a low rate of population growth; and
- (v) A stage of low fertility and low mortality with the latter becoming higher than the fertility rate and thereby leading to negative natural growth.

These five phases were subsequently reduced by Thompson (1948) to the following three phases:

- (i) A stage of balance between high and uncontrolled mortality and fertility rates characterized by a low rate of population growth;
- (ii) A stage of low fertility and a sharper decline in the mortality rate leading to rapid population growth; and
- (iii) A stage of balance between mortality and fertility rates maintained at low levels with almost zero population growth.

The theory was later considerably enriched by the demographic transition experiences of developing countries and some European countries during the 1980s. The subsequent stages revisited by Zarnoun and Tabutin (1994) seemed to best summarize and capture the model pattern of demographic transition as follows:

- (i) Pre-transition stage with birth and death rates fluctuating slightly at levels as high as 30-40 per thousand and slight population growth;

- (ii) Beginning of the steady decline of mortality while birth rates remain high resulting in high natural population growth;
- (iii) Beginning of a more or less rapid reduction in the birth rate lagging behind the decline of mortality at a time when the population growth rate is beginning to slow down; and
- (iv) Post-transitional stage where death and birth rates stabilize at levels as low as 10 per thousand with the latter remaining slightly higher than the former and leading to slow population growth.

All demographic transition models obviously emphasized the synchronization of respective mortality and fertility patterns. Placing mortality decline as a pre-condition for fertility decline formed the cornerstone of the theory

Many writers have criticized the theory of demographic transition, particularly those aspects which explain the decline of fertility. Coale and Hoover (1958), for instance, question certain elements of the theory by indicating that in developing countries reductions in the birth rate are not always predicated upon the reduction of death rates, and that urbanization is not a sufficient condition for the decline of birth rates. The example of some African countries also shows that fertility can decline independently of the degree of socio-economic development (Kirk, 1996). In addition, in some cases, mortality decline was followed by a temporary increase in fertility (Latin America, Africa and a major part of Asia) (Dyson and Murphy 1985).

## **E. Scope and Objectives of the Study**

Since a variety of economic, social, demographic, cultural and biological factors have helped to significantly reduce mortality and fertility in the world, the study seeks to identify the most important factors in order to propose to decision-makers and development planners the strategies and programmes that must be pursued with a view to facilitating the process of the demographic transition in Africa. More specifically, an attempt will be made to: (i) analyze the main socio-economic and demographic characteristics and the associated trends in some countries, describe the situation of these countries relative to various stages of the demographic transition and identify best practices; (ii) draw relevant lessons from demographic transition experiences while taking into account the need to guide and facilitate the process in Africa; and (iii) suggest the way forward for member States.

The data and resources available have compelled us to make a selection of various African experiences in demographic transition. Accordingly, among the eight countries selected for the study, three of them (Botswana, Mauritius and Tunisia) are considered to have made a successful demographic transition by having reached the stage of sustainable fertility decline. This does not apply to the five other countries (Cameroon, Egypt, Madagascar, Mali and Nigeria) which are in the early stages of the transition. The analysis of the various experiences will provide us with useful lessons on the factors facilitating or constraining the demographic transition.

The following sections will constitute the study. After this introductory section, Section II will provide a concise description of population dynamics and selected socio-economic growth factors. The selected experiences of the demographic transition will be summarized in two sections: Section III on selected experiences from Africa; and Section IV on some lessons from Asia. The last section, Section V, will dwell on best practices, constraints, lessons learned and the way forward.

## II. OVERVIEW OF POPULATION DYNAMICS AND SELECTED SOCIO-ECONOMIC FACTORS

### A. Population dynamics

#### 1. Population and growth rates

The data presented in Annex Tables 1 and 2 provide a comparative analysis of world population and growth rates by major area and region from 1950 to 2050 using medium estimates and projections (United Nations 2001). World population was estimated at 6.1 billion in 2000. Out of this total 13.1 percent or 794 million lived in Africa. This percentage is slightly higher than that of the European population (12.0 per cent); Asia has slightly more than three fifths of the world population; Latin America and the Caribbean have 8.6 per cent; North America has 5.1 per cent; and Oceania has 0.5 per cent. Figures 1, 2a and 2b clearly depict world population by major regions.

*FIGURE 1, 2a and 2b here*

With regard to population growth, Africa, with an annual growth rate of about 2.4 per cent over the period 1995 to 2000, has the highest population growth rate in the world. The rates for other regions, within the same period, varied from less than zero percent for Europe to 1.6 per cent for Latin America and the Caribbean (see Figure 3). The relatively high population growth rate for Africa was essentially due to high fertility and gradually declining mortality levels.

*FIGURE 3 here*

#### 2. Fertility Levels and Trends

The birth rate is certainly the main factor influencing the rapid population growth observed on the continent. The most recent United Nations estimates for the period 1995-2000 show a crude birth rate of 24 per thousand worldwide and of 39 per thousand in Africa (Annex Table 3). The table also shows crude birth rates in the range of 29-30 per thousand in North Africa and Southern Africa, and in the range of 43-44 per thousand in Eastern, West, and Central Africa. Figure 4 shows the crude birth and death rates for Africa (1950 to 2000).

*FIGURE 4 here*

Fertility levels measured in terms of the total fertility rates (TFRs) enable fertility rates to be more appropriately compared, since in contrast with the crude birth rates (CBRs), the TFRs do not depend on the age and sex structure of the population under study<sup>1</sup>. Figure 5 and Annex Table 4 show that for the period 1995-2000, the TFR was 2.8 worldwide, 1.4 for Europe, 2.0 for North America, 2.4 for Oceania, 2.7 for Asia, and 2.7 for Latin America and the Caribbean, and 5.3 for Africa. The value estimated for Africa contrasts sharply with the values for the other continents and means that fertility levels in Africa far exceed the level of 2.2 children required to replace the population. The estimates for West, Eastern and Central Africa show that the fertility level is more than 5.5 children, which is a significantly higher level than the values of 3.6 and 3.3 indicated for North Africa and Southern Africa.

*FIGURE 5 here*

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<sup>1</sup> TFR measures the current fertility level and is interpreted as the average number of children that a woman would have given birth to by the end of her fertile life if current fertility rates remain constant from the beginning to the end of the procreative life (from age 15-49).

While fertility has been declining worldwide over the past 30 years, the tempo of the decline appears to have been slower in Africa. The most significant decline in developing countries within that period was observed in Asia. In Africa, the decline was moderate and affected all sub-regions but was felt more in North and Southern Africa where the TFR declined by at least 1.4 children.

Available literature shows that the relatively high levels of fertility still observed in Africa, especially Sub-Saharan Africa, have more to do with a combination of cultural and socio-economic factors which determine the attitudes and behavior of people towards procreation. The high incidence of fertility at least reflects that reproduction starts at young ages, age at first marriage is early, and contraceptives are not being used in a widespread and effective manner (Schoenmaeckers, 1988).

Nevertheless, certain pockets of high incidence of sterility have been located in Africa. They stretch from Cameroon and Gabon, through the Congo, the Democratic Republic of Congo, the Sudan, the Central African Republic, and Uganda to Tanzania (UNECA, 1986). This belt of primary and secondary infertility has a major effect on fertility. Frank (1983) states that if the issue of female infertility is not addressed soon, the fertility decline runs the risk of being delayed in Africa since it will make the domestic and external pressures being exerted on families to reduce the number of children counterproductive.

### **3. Mortality Levels and Trends**

The crude death rate (CDR) currently estimated at 9 per thousand worldwide ranges from 7 per thousand in Latin and the Caribbean to 14 per thousand in Africa (Figure 4 and Annex Table 3). The relatively high CDR in Africa, compared to that for other regions, is due to high mortality resulting from infectious and communicable diseases as well as poor living conditions and food insecurity. Sub-regional variations of the CDR in Africa show that the highest levels of mortality are in Eastern, Central and West Africa where CDRs are far in excess of 10 per thousand. In contrast, North Africa and Southern Africa have relatively lower levels of mortality with CDRs of 8 and 12 per thousand respectively.

During the period 1995-2000, life expectancy at birth ranged from 51 years (both sexes) in Africa to 77 years in North America (Table 1). The values shown by sex reflect that expectation of life at birth is always higher for females than for males. Further, the trends observed from 1950-55 to 1995-2000 reflect that the world has experienced an incipient decline in mortality over time. The decline has, however, been more substantial in some regions than in others. For example substantial gains were made in Asia (61 per cent for both sexes) compared to Africa (34 per cent) Latin America (35 per cent), Oceania (21 per cent), North America (12 per cent) and Europe (11 per cent).

With regard to infant mortality, Africa is the only region of the world where the infant mortality rates (IMRs) still remain much higher than the rate which Europe experienced in 1950-1955. In 1995-2000, Africa had an estimated IMR of 91 per 1000 compared to 10 per 1000 in Europe (Table 2). Other regions of the world fall somewhere between the two extremes. Overall, infectious and parasitic diseases, respiratory infections and malnutrition are noted to be the major causes of morbidity and mortality in Africa.

**TABLE 1. EXPECTATION OF LIFE AT BIRTH (YEARS) BY MAJOR AREA, REGION AND SEX , 1950-1955, 1975-1980, 1995-2000**

Period	Both sexes			Males			Females		
	1950-55	1975-80	1995-00	1950-55	1975-80	1995-00	1950-55	1975-80	1995-00
World	47	60	65	45	58	63	48	62	67
Africa	38	48	51	67	47	50	39	50	52
Eastern Africa	37	47	46	35	45	45	38	48	47
Middle Africa	36	46	49	34	44	48	38	48	50
Northern Africa	42	54	65	41	53	63	43	55	66
Southern Africa	44	55	55	43	52	53	45	58	58
Western Africa	36	46	50	34	45	49	37	47	51
Asia	41	58	66	41	58	64	42	59	67
Europe	66	72	73	63	68	69	68	75	77
Latin America and Caribbean	51	63	69	50	61	66	53	66	73
Northern America	69	73	77	66	70	74	72	77	77
Oceania	61	68	74	59	65	71	64	71	76

**Source:** United Nation, 2001. World Population Prospects, 2000, pp. 616-640

#### **4. Migratory Movements**

In Africa, internal migration is characterized by the movement of people from rural areas to urban areas (rural-urban drift) or between the rural areas themselves. In most cases, such migration leads to an uneven spatial distribution of the rural population and to an excessive concentration of the urban population in the cities. Compared to other continents, the main feature of Africa migration lies in the continents recent experience of urbanization characterized, on the one hand, by a low degree of urbanization and, on the other hand, by high growth rates of the urban population. Accordingly, from 1950 to 1970, the annual growth rate of Africa's urban population, which was estimated at 4.7 per cent, was only very slightly higher than the 4.3 per cent estimated for Latin America and Asia. Nevertheless, while the rate was diminishing in other developing regions, it continued to increase in Africa where it reached 5 per cent in 1970-1990 compared to 3.4 per cent in Latin America and 4 per cent in Asia. By the end of the century, the rate was estimated to be 4.8 per cent in Africa (leading to a doubling of the urban population in 15 years only).

**TABLE 2. INFANT MORTALITY RATES PER 1000 BY MAJOR AREA AND REGION 1950-2000**

Major area/region	1950-1955	1980-1985	1990-1995	1995-2000
World	157	79	64	60
Africa	181	113	98	91
Eastern Africa	181	119	111	103
Middle Africa	187	116	101	98
Northern Africa	188	102	67	58
Southern Africa	105	72	59	63
Western Africa	191	120	105	96
Asia	182	83	65	59
Europe	72	18	12	10
Latin America and Caribbean	126	58	40	36
Northern America	29	11	8	7
Oceania	60	35	29	26

**Source:** United Nation, 2001. World Population Prospects, 2000, pp. 644-650

The types and patterns of external migration are relatively well known in Africa (UNECA, 1983a). In West Africa for example, people move from such landlocked Sahelian countries as Burkina Faso and Mali to the more developed coastal farming or mining countries such as Cote d'Ivoire and Ghana. In Southern Africa, the migratory flows towards the gold mines of South Africa from Botswana, Lesotho, Malawi, Mozambique, Swaziland and Zimbabwe have, for several years, been one distinctive aspect of migration in that sub-region. In North Africa, international migration is chiefly oriented towards the countries of Western Europe and, more recently, towards the oil producing countries of the Arabian Peninsular, the Persian Gulf and the Libyan Arab Jamahiriya.

While the overall trends are known, the paucity of statistics in Africa (mostly from censuses) and the irregularity of most of these movements do not allow for an accurate assessment of international migration. It is probably more substantial than the net negative migration rate of 0.1 per thousand estimated for the whole continent over the period 1990-1995. Therefore while all the estimates made to date on migration in Africa have invariably shown a net negative migration, the numbers of immigrants have been too few to have any impact whatsoever on the dynamics of domestic natural population change.

In the case of the massive movement of refugees, the problem began to arise in the 1960s when the total number was estimated in 1964 at 400,000. This figure rose to 500,000 in 1970, then to 3 million in 1979 before going on to a peak of 5.4 million in the 1990s, accounting for one third of the refugees in the world (ECA 1991). While countries of origin and destination of refugees have changed over the years, the major countries affected by refugee movements continue to be those in Central and Eastern Africa (particularly Burundi, Democratic Republic of the Congo, Ethiopia, Malawi, Rwanda,

Somalia, Sudan and Tanzania) and, more recently, in West Africa ( Cote d'Ivoire, Guinea, Liberia and Sierra Leone).

Domestic and external migration in Africa, just like refugee movements, traditionally occurred as a reaction to adverse climatic, economic, socio-demographic and political conditions and to the series of international crises which affected most African countries. Chief among the reasons for such migration were the factors of rapid population growth, slowing or declining agricultural productivity, drought and desertification, natural disasters, conflicts, the debt overhang and balance of payments difficulties (Adepoju, 1988).

## **B. Selected Socio-economic Factors**

### **1. Status of women and the elderly**

The status of African women compared with that of men remains low in contrast to the developed regions of the world. Also very rapid and severe erosion of traditional family support systems due to, among other factors, rapid urbanization and industrialization and poor economic conditions may portend difficult years ahead for the African elderly as many countries lack old age security and alternative living arrangements for the elderly. The low status of women and insecurity in old age are some of the factors known to support the desire for many children.

### **2. Illiteracy**

Illiteracy rates (for adults 15 years and more) are highest in Africa reaching almost 85 per cent (80 per cent for males and 93 per cent for females) in countries like Niger compared to other regions of the world where the highest recorded rates are 54 per cent for males and 84 per cent for females in Afghanistan (Asia), 7 per cent for males and 13 per cent for females in Macedonia (Europe), 53 per cent for males and 59 per cent for females in Haiti (Latin America & the Caribbean), and none in North America and Oceania (UNDP 2001, UNFPA 1999). Except for a few countries like Botswana, Lesotho and Namibia, enrolment rates in primary and secondary schools for girls are always lower than those for boys.

### **3. Economic Situation**

The Human Development Report of 2001 indicates that Africa is the poorest region of the world. Within the continent, Southern Africa and North Africa are relatively better off regions than the rest of the regions (Table 3). East Africa turns out to be strikingly the poorest region.

It is estimated that assuming an average population growth rate of 2.8 per cent for sub-Saharan Africa, a GDP growth rate of 8 per cent is required to achieve poverty reduction in the region (UNECA, 2001). Yet Africa's overall economy grew by an estimated rate of only 3.2 percent in 1999. This suggests that if the poverty reduction objectives are to be achieved, simultaneous efforts should be made to reduce the pace of population growth while increasing the rate of economic development.

**Table 3** **Per capita income (US\$) by major regions in Africa, 1998 and 1999**

Region	1998		1999	
	Income level	Income growth	Income level	Income growth
North Africa	1264	1.92	1273	0.70
West Africa	409	1.01	411	0.42
Central Africa	937	3.75	953	1.22
East Africa	177	-1.11	179	1.18
Southern Africa	1388	1.79	1379	-0.64
Africa	688	0.72	690	0.35

Source: UNECA, 2001. Transforming Africa's Economies: Overview, pp.50-51

#### **4. Nutrition and food availability**

Available statistics reveals that the number of chronically undernourished people in the region increased from 89 million in 1969-71 to 126 million in 1979-81, to 164 million in 1990-92, and then to 180 million in 1995-97 (FAO, 1996). Food insecurity is expected to accelerate substantially in the future such that by the year 2010, every third person in Sub-Saharan African could be food insecure compared with every eighth person in South Asia and every twentieth person in East Asia.

#### **5. Urbanization**

During the last two to three decades, Sub-saharan Africa (SSA) experienced the highest growth rates in urbanization in the world except for East Asia and the Pacific which experienced a growth rate of 11.5 per cent between 1980 and 1991(UNECA, 1983b). The fastest growing urban areas in Africa were in Mozambique and Tanzania with average urban growth rates of over 10 per cent between 1970 and 1995. Other countries with average urban growth rates exceeding 6.5 per cent during the period include Burkina Faso, Burundi, Rwanda, Niger, Gabon, Kenya, Lesotho and Mauritania. The most highly urbanized countries in which over 50 per cent of the population lived in urban areas by 1995, however, are Algeria, Congo, Gabon, Mauritius, South Africa and Tunisia. Other countries in which urban populations constitute 45 per cent or more of the total population are Egypt, Morocco and Zambia.

#### **6. Health**

Available information indicates that almost the entire population of Egypt, Mauritius, and Tunisia had access to health care in 1980 and 1993 (World Bank, 1997). In Morocco and Nigeria, about two-thirds of the population had access to health care. Information on other important indicators of the health situation in African countries were also gathered by the UNCTAD (UNCTAD, 1997). Burkina Faso, Central African Republic (CAR), Chad, Ethiopia, Malawi, Niger, Tanzania and Rwanda had the largest population per physician. Between 1970 and 1990 the population per physician was reduced by almost 50 per cent in Burkina Faso, CAR, Chad, Mali and Niger.

Currently, the continent is gravely affected by HIV/AIDS, tuberculosis and malaria. In the case of HIV/AIDS, the following facts are noted as of 1998 (UNFPA, 98/99):

- Africa with about 13 percent of the world's population has 68 percent of global HIV/AIDS cases.
- 95 percent of Africans infected with HIV/AIDS live in abject poverty.
- About 90 percent of all HIV transmission in Africa occurs via heterosexual sex. This is 100 per cent preventable.
- About eight million children in Sub-Saharan Africa are orphaned by AIDS.
- Progress in raising child survival rates has been reversed in many parts of sub-Saharan Africa where nearly 94 percent of the world 3.2 million child AIDS deaths have occurred.
- AIDS has lowered average life expectancy levels by 10-20 years in some African countries. In hardest hit countries, such as Zimbabwe, AIDS has reduced life expectancy by more than 20 years. Life expectancy in Botswana is projected to fall to 41 years by the year 2005, 29 years less than expected in the absence of AIDS.
- AIDS has overtaken malaria and other diseases as the leading cause of death for adults between the ages of 15 and 49 in Botswana, Burundi, Malawi, Rwanda, Tanzania, Uganda, Zambia, Zimbabwe and in capital cities such as Abidjan, Addis Ababa, Nairobi and Ouagadougou.

### **C. Selected Demographic and Socio-economic indicators in eight countries selected for the study**

The countries selected for the study include Botswana, Cameroon, Egypt, Madagascar, Mali, Mauritius, Nigeria and Tunisia. Botswana, Mauritius and Tunisia are well known examples of countries experiencing sustained fertility and mortality decline. The rest of the countries are undergoing delayed demographic transition. Mortality and fertility levels and trends in these countries indicate that the rest of the selected countries are in stage II of the transition. In addition, care has been taken to ensure that at least one country has been selected to represent each of the sub-regions of Africa.

In this subsection, a brief examination of selected demographic and socio-economic indicators is given for the selected countries.

#### **1. Demographic and Socio-economic Indicators**

##### **a) Growth rates**

Between 1975-99 all the selected countries except Mauritius, experienced population growth rates of over 2 per cent (Table 4). In the period 1999-2015, however, Botswana, Mauritius and Tunisia are projected to experience growth rates of 1.2 per cent or less. The rates for the other countries are going to be much higher than these.

##### **b) Population under 15 years**

The proportions under age 15 will continue to constitute major components of the population of the countries under study due to the in-built momentum of growth (Table 4). But countries which have experienced a relatively longer period of sustained demographic transition such as Mauritius and Tunisia will have dramatically reduced proportions in the year 2015.

**TABLE 4: DEMOGRAPHIC AND SOCIO-ECONOMIC TRENDS INDICATORS**

Country	Annual population growth rate		Urban population (as % total) <sup>a</sup>			Population under age 15 (as % total)		Population aged 65 and above (as % total)		Total fertility rate (per woman)	
	1975-99	1999-2015	1975	1999	2015 <sup>b</sup>	1999	2015 <sup>b</sup>	1999	2015 <sup>b</sup>	1970-75 <sup>c</sup>	1995-2000 <sup>c</sup>
Botswana	2.9	0.7	12.0	49.7	58.4	42.4	36.8	2.7	3.9	6.6	4.4
Cameroon	2.7	2.1	26.9	48.0	58.9	43.4	39.5	3.6	3.8	6.3	5.1
Egypt	2.3	1.5	43.5	45.0	51.2	36.0	26.9	4.1	5.2	5.5	3.4
Madagascar	2.8	2.7	16.1	29.0	39.7	44.8	41.9	3.0	3.1	6.6	6.1
Mali	2.4	2.9	16.2	26.4	40.1	46.1	46.3	4.0	3.8	7.1	7.0
Mauritius	1.1	0.8	43.5	41.1	48.5	26.0	21.1	6.2	8.5	3.2	2.0
Nigeria	2.9	2.5	23.4	43.1	55.4	45.2	41.4	3.0	3.3	6.9	5.9
Tunisia	2.1	1.2	49.8	64.8	73.5	30.5	24.8	5.8	6.2	6.2	2.3

**Note:** a) Because data are based on national definitions of what constitutes a city or metropolitan area, cross-country comparisons should be made with caution.  
b) Data refer to medium variant projections  
c) Data refer to estimates for the period specified.

**Source:** UNDP. 2001. Human Development Report, pp 154-157

### c) Population aged 65 and over

The population over age 64 will increase over time as countries experience the demographic transition. Among the selected countries, Mauritius and Tunisia provide good examples of the ageing process as the transition progresses (Table 4).

### d) Fertility indicators

During the period 1970-75 all the selected countries, except Mauritius, had total fertility rates of over 5 children per woman (Table 4). In the period 1995-2000, however, Botswana, Egypt and Tunisia had joined Mauritius in having rates under 5 children per woman.

### e) Mortality rates

Since the 1950's, mortality rates have experienced incipient decline in all the selected countries. For example, the decline in infant mortality was from 175 per thousand in 1975 to 35 per thousand in 1990 for Tunisia (Table 5). Overall, the mortality rates of children under age five reached levels of 21.2 per thousand in Tunisia and 81.2 per thousand in Botswana.

The values of life expectancy estimated for males and females separately reflect the expected biological advantage of females over males as well as the continued mortality decline in the eight countries, except Botswana, up to 1995. The dramatic drop from 1990 to 1995 in life expectancy in Botswana is a further reflection of the devastating effects of HIV/AIDS on the survival of the population.

**TABLE 5. MORTALITY TRENDS INDICATORS**

Country	Year	Life expectancy (Years)		Infant Mortality Rate (Per 1000)	Under 5 Mortality (Per 1000)
		Males	Females		
Botswana	1950	41	44	130.00	81.24
	1960	46	49	113.00	
	1970	51	55	88.40	
	1980	57	62	67.07	
	1990	59	63	53.15	
	1995	46	48		
Cameroon	1950	34	37	190.00	125.40
	1960	39	42	153.90	
	1970	44	47	119.10	
	1980	49	53	103.13	
	1990	53	56	82.37	
	1995	53	56		
Egypt	1950	41	44	200.00	83.99
	1960	46	49	157.00	
	1970	51	53	150.10	
	1980	55	58	115.00	
	1990	62	65	62.83	
	1995	65	68		
Madagascar	1950	36	39	199.80	131.85
	1960	40	43	171.20	
	1970	45	48	150.00	
	1980	50	53	112.00	
	1990	54	57	92.31	
	1995	56	59		
Mali	1950	33	36	213.00	259.04
	1960	37	40	208.20	
	1970	42	44	203.10	
	1980	46	48	159.00	
	1990	50	53	122.80	
	1995	52	55		
Mauritius	1950	50	52	99.30	21.18
	1960	59	62	60.96	
	1970	61	65	55.42	
	1980	64	69	28.38	
	1990	66	74	18.37	
	1995	68	75		
Nigeria	1950	35	38	159.30	157.90
	1960	39	42	133.76	
	1970	42	45	116.86	
	1980	45	48	101.08	
	1990	48	48	85.94	
	1995	49	51		
Tunisia	1950	44	45	175.00	42.55
	1960	49	50	155.00	
	1970	55	56	120.00	
	1980	63	64	71.00	
	1990	66	69	35.00	
	1995	68	71		

Source: United Nations, 2001.

## 2. Socio-economic Indicators

### a) Urbanisation

The evolution of urbanisation among the eight countries reached at least 25 per cent in 1999 (Table 4). The most dramatic change took place in Botswana where the proportion urban changed from 12.0 per cent in 1975 to 49.7 per cent in 1999, and is expected to reach 58.4 per cent in 2015. The proportions will range from approximately 40 per cent for the least urbanised country to 73 per cent in Tunisia in the year 2015.

### b) Human Development Index

The Human Development Index recorded in 1999 indicates that among the selected countries, Mauritius had the highest index of 0.765 and Nigeria had the lowest index of 0.455 (Table 6). The countries observed to be experiencing sustainable demographic transition had indices above 0.600 from 1985 to 1995. But in 1999, Botswana's index dropped to 0.577. This is most likely due to the dramatic drop in life expectancy resulting from the effects of HIV/AIDS.

**TABLE 6. TRENDS IN HUMAN DEVELOPMENT INDEX <sup>a</sup>**

Country	Index					
	1975	1980	1985	1990	1995	1999
Botswana	0.495	0.558	0.615	0.654	0.621	0.577
Cameroon	0.407	0.453	0.502	0.511	0.497	0.506
Egypt	0.433	0.481	0.531	0.573	0.603	0.635
Madagascar	0.398	0.431	0.425	0.432	0.439	0.462
Mali	0.251	0.277	0.291	0.310	0.344	0.378
Mauritius	0.628	0.655	0.685	0.721	0.745	0.765
Nigeria	0.326	0.386	0.402	0.423	0.447	0.455
Tunisia	0.512	0.564	0.611	0.644	0.680	0.714

**Note:** a) The index is calculated by UNDP on the basis of data on life expectancy; adult literacy rates; combined primary, secondary and tertiary gross enrolment ratios; GDP at market prices (constant 1995 US\$); and population and GDP per capita (ppp US\$).

**Source:** UNDP, 2001. Human Development Report pp. 145-148

### c) Social Security Programmes

A survey of social security programmes indicates that all the selected countries have programmes related to old age, disability and death; sickness and maternity; work injury; and unemployment. But these programmes vary in their coverage of the population. The best organised programmes identified were those of Mauritius (whose programme covers all citizens for old age, disability and death; sickness and maternity; and unemployment); and Botswana, which covers all citizens for old age, disability and death (Table 7). The programmes in the rest of the countries largely cover employees in the formal sector (a very small proportion of the population).

**Table 7. Social Security Programs in Selected African Countries**

Country	Type of Cover			
	Old Age Disability Death	Sickness Maternity	Work Injury	Unemployment
Botswana	All Citizens	Employees and families	Employees	Employees
Cameroon	Employees	Employees	Employees	None
Egypt	Employees	Employees	Employees	Employees
Madagascar	Employees	Employees	Employees	None
Mali	Employees	Employees	Employees	None
Mauritius	Employees	Employees	Employees	All Citizens
Nigeria	Employees	Employees	Employees	None
Tunisia	Employees	Employees	Employees	Employees

Source: US Social Security Administration; Office of Policy (1999).

#### d) Fertility by background characteristics

Available information indicates that fertility is generally lower in urban than rural areas, and for women with secondary or higher education than for those with lower education (Table 8). This is largely due to the fact that women with higher education delay their marriage and are more empowered to use contraceptives to plan their child bearing than women who are less educated. On the other hand, women in urban areas are more educated than women in rural areas.

**TABLE 8: FERTILITY BY BACKGROUND CHARACTERISTICS**

Country	Year	Mean Children Ever Born (40-49)					
		Place of residence		Highest Education Level			Total
		Urban	Rural	No education	Primary	Secondary of Higher	
Botswana	1988	5.0	5.7	6.0	5.6	4.0	5.6
Cameroon	1991	5.8	6.4	6.4	6.0	5.2	6.2
	1998	5.7	6.4	6.2	6.5	5.2	6.2
Egypt	1988	5.2	6.9	6.6	5.7	3.3	6.0
	1992	4.7	6.8	6.5	5.6	3.2	5.7
Madagascar	1992	5.5	7.0	6.6	7.3	5.1	6.7
	1997	5.3	7.2	6.8	7.2	4.6	6.6
Mali	1987	7.1	7.1	7.0	7.6	6.6	7.1
	1996	7.1	7.6	7.7	7.4	6.5	7.6
Mauritius	a	a	a	a	a	a	a
Nigeria	1990	6.0	6.6	6.4	7.0	6.1	6.5
	1999	5.7	6.3	6.1	6.8	5.7	6.1
Tunisia	1998	5.4	6.5	6.2	4.8	3.3	5.8

**Notes:**

a) Comparable information for Mauritius is not available

b) The value represents that for women of second education (those of higher education had a mean of 4.5)

**Sources:** Macro International Demographic and Health Surveys for the Respective countries and year indicated.

### e) Age at first marriage

Age at first marriage varies by rural-urban residence and education. Table 9 reflects that women in urban areas marry at a later age than women in rural areas, and women with education marry at a later age than women without education. Further information shows that in the selected countries, except Mauritius, the proportion of women married by age 25 ranges from 47 percent in Botswana to 97 per cent in Mali (for all years in which the data is available) (Table 10). This suggests, therefore, that age at first marriage is an important component of the demographic transition in Botswana.

**TABLE 9. MEDIAN AGE AT FIRST MARRIAGE BY BACKGROUND CHARACTERISTICS**

Country	Year	Median age at first marriage for women aged 20-49					
		Place of residence		Highest Education Level			Total
		Urban	Rural	No education	Primary	Secondary of Higher	
Cameroon	1991	17.6	16.2	15.2	17.4	a	16.7
	1998	18.9	17.1	15.3	17.9	a	17.6
Egypt	1988	a	17.4	17.1	18.4	a	19.0
	1995	a	18.3	17.5	18.5	a	19.7
Madagascar	1992	a	18.1	16.7	17.9	a	18.5
	1997	a	18.1	16.4	18.2	a	18.6
Mali	1987	15.9	15.7	15.7	16.3	19.4	15.7
	1996	17.1	15.8	15.9	16.8	a	16.0
Nigeria	1990	19.4	16.4	15.7	18.4	a	17.1

**Notes:** a) information is not available for the categories

**Sources:** Macro International Demographic and Health Surveys for the Respective countries and year indicated.

**TABLE 10 : PERCENTAGE MARRIED BY EXACT AGE 15,18,20,22 AND 25**

Country	Year						Never married
		15	18	20	22	25	
Botswana	1988	3.1	15.7	27.7	38.1	47.0	41.7
Cameroon	1991	26.3	63.2	78.4	85.5	90.3	7.0
	1998	20.9	52.9	69.0	78.1	84.7	11.1
Egypt	1988	1.0	42.1	57.0	68.1	78.2	14.4
	1995	12.0	36.5	52.3	64.7	77.4	13.7
Madagascar	1992	11.5	45.0	61.8	73.5	81.1	13.2
	1997	13.7	43.5	62.0	73.7	82.3	11.3
Mali	1987	27.9	80.3	91.1	95.9	97.8	0.5
	1996	21.3	74.0	86.1	91.7	94.4	3.8
Mauritius	a	a	a	a	a	a	a
Nigeria	1990	28.0	56.4	70.6	81.2	88.2	7.3
	1999	15.8	29.3	39.4	60.5	73.0	0.0 <sup>b</sup>
Tunisia	1988	2.8	18.3	34.2	49.9	63.1	27.5

**Notes:**

a) Comparable information is not available for this country

b) This information refers to women aged 45-49

**Sources:**

Macro International Demographic and Health Surveys for the Respective countries and year indicated.

## f) AIDS Preventive Behaviour

Table 11 indicates that AIDS prevention behaviour is not consistent in selected sub-groups in a number of cases. Whereas in Cameroon and Mali adoption of prevention behaviour is higher in rural than urban areas, this is not the case in Madagascar where it is higher in urban than rural areas and in Nigeria where it is about equal. In the case of education, the same phenomenon is prevalent. Adoption of preventive behaviour change decreases as one moves from no education to higher education in Cameroon and Mali, while the reverse is true in Madagascar and Nigeria.

As expected, the young people (adolescents and youth) to whom reproductive health information may not be readily available as it would be to older women, especially those married, are less disposed to preventive behaviour change (Table 12). Older women are more disposed to preventive behaviour change than young ones, although this may not be true for all countries with information (especially Nigeria where probably HIV/AIDS programmes targeting have empowered the youth). Generally, however, there is a need to increase knowledge on HIV/AIDS among the entire population if the pandemic has to be contained.

**TABLE 11: AIDS PREVENTION BEHAVIOUR BY BACKGROUND CHARACTERISTICS**

Country	Year	Percentage with change in Behaviour <sup>a</sup>							
		Place of residence		Education level			Marital status		
		Urban	Rural	No education	Primary	Secondary or higher	Currently married	Formerly married	Never married
Cameroon	1998	39.4	44.2	74.0	39.4	26.5	50.1	32.5	25.7
Madagascar	1997	46.8	42.2	38.6	40.4	50.2	46.8	37.9	39.3
Mali	1996	33.7	60.1	55.3	36.7	26.4	54.0	45.3	28.2
Nigeria	1999	74.7	74.3	68.1	72.4	78.9 <sup>b</sup>	c	c	c

**Note :**

- a) percentage of women who know of AIDS by changes in behaviour in order to avoid AIDS.
- b) This information refers to women with Secondary education (higher education has a percentage of 81.3)
- c) Comparable information was not available.

**Sources:**

Macro International Demographic and Health Surveys for the Respective countries and year indicated.

**TABLE 12 AIDS PREVENTION BEHAVIOUR BY 5 YEAR AGE GROUPS\***

Country	Year	Percentage with change in behaviour by age groups				
		15-19	20-24	25-29	30-39	40-49
Cameroon	1998	35.9	36.9	40.3	46.8	55.5
Madagascar	1997	38.3	42.5	47.1	45.3	46.2
Mali	1996	39.5	46.5	51.8	54.9	57.7
Nigeria	1999	75.9	79.8	73.3	73.0	69.5

**Note :\*** Percentage of women who know of AIDS by changes in behaviour in order to avoid AIDS

**Sources:** Macro International Demographic and Health Surveys for the Respective countries and year indicated.

### **III. THE STATE OF THE DEMOGRAPHIC TRANSITION IN SELECTED DEVELOPING COUNTRIES IN AFRICA**

#### **A. Examples of countries experiencing sustained demographic transition**

Africa has certainly experienced an initial phase of mortality decline which happens to have been sustained for more than-half a century (Hill, 1989). The mortality decline caused by economic and social progress was also related to advances in medical science, the improvement of hygiene and the reduction of infant mortality. The conclusions, however, are less consistent with regard to fertility trends where fertility has not decreased significantly in most African countries (Locoh., 1995). Regarding migration, the available data confirmed that international immigration has no significant influence on national demographic transition.

The high rate of population growth observed in Africa over more than half a century was, therefore, the result of a continuing decline in mortality and relatively high fertility. In the absence of a significant decline of fertility (of the magnitude which occurred in Europe, North America and, more recently in Asia and Latin America), Africa is the last region of the world to have embarked on the demographic transition. Given, however, the fact that the continent is experiencing declining mortality (the likely reversals due to HIV/AIDS and the resurgence of malaria and tuberculosis notwithstanding), the question that arises is how can the transition be facilitated in Africa by accelerated fertility decline. Responses to this question should be combined with efforts to eliminate HIV/AIDS, malaria and tuberculosis which pose the danger of reversing hard won gains in mortality decline.

Africa's sub-regional diversity and disparities within nations make it hazardous to venture any general proposals and strategies for reducing fertility on the continent. But more recent experience of the demographic transition in Africa provides a good opportunity to understand the facilitating and constraining factors for the transition in the region.

This section reviews the experiences of selected countries that are experiencing sustained mortality and fertility declines and those that are experiencing delayed demographic transition. The ultimate aim is to identify best practices and lessons learned from countries that have achieved sustained mortality and fertility declines in contrast to countries that are in the early stages of the transition. Identified best practices and lessons learned will be useful for advocacy and dissemination in member States. Their adaptation to specific country situations may accelerate the demographic transition and the achievement of lower population growth rates in the continent.

But it is appropriate to start discussing individual countries by presenting a summary of some overall indicators for Africa in comparison to the targets set in the DND. This summary is given in Table 13. It is interesting to note that by the year 2000, the only two objectives achieved were those of reducing the growth rate to 2.5 per cent, and the rate of family planning use to 20 per cent. The estimated rates for 2000 were 2.4 per cent for the growth rate and 26 per cent for the rate of contraceptive use. The reduction in the overall growth rate may be largely attributed to a few countries which made concerted effort to popularize the use of family planning while at the same time they put in place policies to support delayed age at first marriage, and to promote smaller families and social welfare.

**TABLE 13: DEMOGRAPHIC TRANSITION IN AFRICA: MONITORING DND GOALS**

AFRICA	DND (1992)		ESTIMATES	
	Objectives : Year 2000	Objectives : Year 2010	Years 1985-90'	Year 2000
Population Growth Rate	2.5 %	2.1%	2.8%	2.4%
Infant Mortality Rate	< 50 (per 1,000)	a	103 (per 1,000)	91 (per 1,000)
Child Mortality Rate	< 70 (per 1,000)	a	152 (per 1,000)	138 (per 1,000)
Maternal Mortality Rate	Halve the 1990 rate	a	880 (per 100,000)	b
Life expectancy at birth	55 years	a	52 years	51 years
Family Planning use	20%	40%	10%	26%

**Notes:**

- a) No objective for this category  
b) Information is not available.

**Sources:** United Nations. ECA. 1992 Dakar/Ngor Declaration on Population. Family and Sustainable Development. United Nations DESA, Population Division, 2001 World Population Prospects: The 2000 Revision. Population Reference Bureau, 2001, 2001 World Population Data Sheet.

**1. Mauritius****a. Population Dynamics and Trends**

In the early 1960s Mauritius had one of the highest population growth rates of the world. Between 1963 and 1972, fertility levels declined from more than six to only slightly above three children per woman, which was considered as the most rapid fertility transition in human history. Fertility continued to decline over the next two decades to just over 2 births per woman in 1991 (ECA, 1997).

Over the same period, the mortality level also declined as a result of a rapid increase in standards of nutrition, health care and other social services. The crude death rate declined from 9.3 per thousand in 1962 to 6.6 in 1991. The infant mortality rate (IMR) reached 18.37 in 1990 (see Table 5 discussed earlier). But under-five mortality was still considered high for a country which had achieved a significant level of human development. Life expectancy at birth improved considerably over the past decades and reached 75 years for females and 68 years for male in 1995, only a few years less than in most developed countries.

**b Socio-economic factors affecting fertility transition in Mauritius**

Education, particularly of women, is certainly one of the most important factors that affected fertility behaviour and contributed to controlling population growth in Mauritius. About 80 per cent of the population is educated; 75 per cent of women in Mauritius are literate. Education in Mauritius through university is free with primary education compulsory.

Employment along with education, contributed to higher living standards of the population in Mauritius where the vast majority of people benefited from employment. The promotion of Export Processing Zones (EPZ) with labour intensive industries created numerous job opportunities for people and particularly for women. Female labour force participation in Mauritius increased dramatically over the years. Increased labour participation, especially for women, affected the traditional child rearing practices and led couples to desire small-size families.

Age at marriage is late in Mauritius. Available information indicates that the age at marriage is estimated to be about 24- 25 years (ECA, 1997). This factor, together with increased utilization of contraceptives within marriage, have contributed substantially to fertility decline.

Considerable efforts were made both by Government and private sector to improve the standard of living of the population and particularly that of the workers and their families. Various welfare schemes were provided by Government and included social security for the vulnerable groups, and family allowance to assist families with three or more children under age 15. With the rise in life expectancy, additional care was needed for the elderly in the population and the policy was oriented to keeping the elderly in the family units. Several facilities with a view to providing the elderly with recreational opportunities and better welfare were put in place.

### **c. Population Policies and Strategies**

The success of the Mauritian population management has been largely attributed to the Government's concern and deep commitment to reduce the rate of population growth, through supportive and extensive health care services, family planning programmes, promotion of basic education, particularly among women, and social welfare schemes.

Initially, family planning was slow to develop partly because of the opposition from the Catholic church and vocal Muslims to all contraceptive methods. That is why the Government decided not to get involved in the provision of services. People were left free to take their own decisions concerning the number of children to have and how to space them. The first family planning clinic was opened in 1957 by the Mauritius Family Planning Association (MPA). Thereafter, a private organization, Action familiale (AF), was formed with the objectives of promoting and teaching natural family planning methods.

Today, the rate of contraceptive use in Mauritius could be compared to that in Europe and North America. Women generally use contraception to limit their pregnancies and the two-child family currently seems to be the norm in Mauritius.

### **d. Perspectives of the demographic transition**

Mauritius is at a critical stage in its development. It has reached the stage of low growth rates, replacement fertility and relatively high socio-economic development. But much still has to be done for the country to enter the newly industrialized economies. In the long run, Mauritius is presumed to face labour shortage as it is already, for example, importing workers from Asian countries. The Government is also conscious of the problem that the ageing population is going to rise in the long-term.

## **2. Botswana**

### **a. Population Dynamics and Trends**

Botswana's demographic profile has all the signs of a country undergoing a demographic transition. Infant mortality rates were more than halved between 1950 to 1990 from 130.0 to 53.1 per thousand live births which was far below the Sub-Saharan average of 92 per thousand (Table 5). Similarly, childhood mortality is down to 81.2 per thousand. Life expectancy rose both for females and males to 59 years and 63 years respectively in 1990. Unfortunately, the effect of the HIV/AIDS pandemic on mortality in the country is estimated to have resulted in reductions in life expectancy in recent years.

Fertility declined from 6.6 in 1971 to 4.9 in 1988, and contraceptive use rose to 33 percent for any method and 32 percent for modern methods (Table 14). It is currently estimated to be 3.9 children per woman (Population Reference Bureau, 2001). However, this achievement is being threatened by the rise in the incidence of teenage pregnancy. The percentage of mothers who were teenagers rose from 15.4 percent in 1971 to 24 percent in 1988.

### **b. Socio-economic factors affecting fertility transition in Botswana**

Botswana's high economic performance has combined with the government's strong commitment to spreading the social services to all the population to make it one of the few African countries with a successful population management programme. Botswana's population is relatively small, amounting to 1.6 million people and growing at the rate of 1.0 per cent per annum. This is much lower than its GDP growth rate of 7.1 per cent.

The country is generally sparsely populated due to the sprawling arid and semi-arid conditions including the existence of a huge mass of the Karahali desert. Densities can range from as low as 0.2-0.8 persons per square kilometer to as high as 87 persons per square kilometer in the most densely populated areas. The urban population has been growing very fast, rising from 18.2 per cent of the population in 1971 to 45.7 per cent in 1991.

### **c. Population Policies and Strategies**

There are many various pragmatic and positive policies that Botswana has pursued during the past decades which have greatly contributed towards achieving demographic transition. These policies include the following:

- i) The country took a judicious move to utilize the huge revenue from the diamond industry to extend social benefits in health and education to a wide spectrum of population as well as to invest in key physical and institutional infrastructures to facilitate the delivery of these services;
- ii) Providing universal free education for primary level and closing the gender gap in access to education and employment;
- iii) Promoting a systematic integrated health care system that incorporates preventive care, primary health care, and family planning services (including mother and child health);
- iv) Adopting a population policy designed to ensure that population factors are properly integrated into development planning at all levels, and to promote coordination of the various intervention efforts undertaken by all institutions and the private sector; and
- v) Enjoying relative peace and stability, and promoting democratic principles.

#### d. Perspectives of the demographic transition

Botswana has now a greater challenge of sustaining its demographic transition in the face of a growing population affected by HIV/AIDS. Reducing poverty is another glaring challenge particularly in the face of reduced opportunities for formal employment. The country's economy has to diversify and create various opportunities for earning a living. Unfortunately, the agricultural sector that would ordinarily offer opportunities for a large proportion of a developing country's population has limitations due to recurrent droughts and dependency on rainfall.

**TABLE 14: SELECTED DEMOGRAPHIC TRANSITION INDICATORS**

Country	Survey, year a	Approximate Reference period	Total fertility rate	Desired fertility	Under -5 Mortality	Contraceptive use (% of married aged 15-49)		% of women married by age 20	
						Any	Modern	20-24	35-39
			(TFR)	(DF)	(Per 1000)				
Botswana	Census, 1971	1971	6.6	-		-	-	-	-
	Census, 1981	1981	7.1	-		-	-	-	-
	Census, 1981 DHS, 1988	1984-87	4.9	4.7	53	33	31.7	18.7	34.2
Cameroon	DS,1962	1960-62	4.6	-		-	-	-	-
	WFS,1978	1974-78	6.4	8.0	191	3	1	81.0	72.0
	DHS, 1991	1988-90	5.8	6.8	126	13	4.3	73.1	83.1
	DHS,1998						7.1		
Egypt	WFS,1980	1976-80	5.3	4.1	191	24	23.0	54.0	76.0
	DHS, 1988	1985-87	4.5	2.9	102	38	35.4	45.1	63.1
	DHS,1992	1989-91	3.9	2.9	85	47	44.8		
	DHS,1995	1992-94	3.6	2.9	81	48	45.5		
Madagascar	RHS,1962	1962	6.6	-		-	-	-	-
	Census, 1975	1975	6.4	-		-	-	-	-
	DHS, 1992	1989-91	6.1	5.5	163	17	5.4	54.1	65.1
	DHS, 1997	1994-96	6.0	5.3	-	-	9.7	-	-
Mali	DS	1960-61	7.4	-		-	-	-	-
	DHS, 1987	1984-86	7.1	6.9	250	3	1.3	92.6	89.5
	DHS, 1995	1992-94	6.7	6.6	238	7	4.5	82.1	87.6
Mauritius	CSO 2000	1972	3.42	B		75c	60c	b	b
		1986	1.94						
		1999	2.03						
Nigeria	NFS,1973	1971-73	7.3	-		-	-	-	-
	WFS,1981-82	1980-82	5.9	8.3	165	5	1	-	-
	DHS,1990	1983-86	7.4	-		-	-	-	-
	DHS, 1990	1987-89	6.0	5.8*	192	6		67.6	70.1
Tunisia	WFS,1978	1974-78	5.9	4.2	107	32	25	29.0	61.0
	DHS,1988	1985-87	4.2	3.5	65	49.8	40.4	20.8	42.6

**Notes:**

a) CSO = Central Statistical Office;

DHS= Demographic and Health survey; WFS= World Fertility survey; DS = Demographic Survey;

NDS=National Demographic survey ; PES= Post Enumeration Survey; NFS= National Fertility Survey;

NSS= National Sample Survey ; FFS= Family and Fertility Survey; RHS= Rural Household Sample

survey;

PCS= Population Change Survey

b) Not available

c) Population reference Bureau, 2001,

**Sources:** Cohen (1993;1998); UN (1987); Westoff, Blanc and Nyblade (1994); Mboup Gora (1998); ISI (1984); Computation from DHS data; Central Statistical Office, Mauritius (2000)

### **3. Tunisia**

#### **a. Population dynamics and trends**

The average annual rate of growth between the two last censuses rose from 1.9 per cent between 1956-66 to 2.7 per cent between 1975-1984. This rapid growth was a consequence of the difference between the crude birth rate (CBR) and the crude death rate (CDR).

The CBR decreased from 50 per thousand in 1956 to 45 per thousand in 1966 while in the same period the CDR fell from 25 per thousand to 15 per thousand. Thus the natural growth rate went from 2.5 per thousand in 1956 to 3 per thousand in 1966, leading to a rapid population growth. The natural rate of growth decreased between 1966 and 1984 to stabilize at 2.6 per thousand before falling further down between 1984 and 1994 to reach a level of 1.7 per thousand.

At the same time, the total fertility rate (TFR) fell from 7.2 children per woman in 1956 to 2.9 in 1994, which represents a drop of nearly 60 per cent (Table 14). Tunisia, therefore, experienced a substantial decline of fertility between 1960 and 1990, which was accompanied by a decline of the mortality rates.

#### **b. Socio-economic factors affecting fertility transition in Tunisia**

A number of factors (biological, socio-economic and behavioural) have been identified to have direct or indirect impacts on the level of fertility in Tunisia. For example, different studies have shown that the evolution of the mean age at marriage contributed significantly to the reduction of fertility in Tunisia. The mean age at first marriage was 19.5 in 1956, 22.6 in 1977, 24.2 in 1984 and 26.5 in 1995. Similarly, the proportion of women married before the age of 20 declined steadily from 42% in 1956 to 5% in 1978 and to 3% in 1995.

The delay in marriage took place both in rural and urban areas, even more rapidly in the rural areas so that the gap in the mean age at first marriage for women between urban and rural areas was reduced from 16 months in 1978 to 3.3 months in 1995. Regional differentials are also very little: the Southern region where the mean age of marriage was 22.0 in 1976 has overtaken the Northeastern region with 25.6 as opposed to 25.1.

In 1978, women with secondary level of education were married at the age of 27.0 (34 months and 51 months later than women with primary schooling only or without any education respectively). In 1995, the difference was reduced to five months between women with secondary and primary levels, and to 12 months between women with secondary level and those without education. This is largely attributable to the rise in the age at marriage by less educated women while the mean age at first marriage for women with the secondary education experienced little change between 1978 (27.0) and 1995 (27.2).

Contraception is another essential factor that contributed to the fertility decline in Tunisia such that the Family Planning Programme of Tunisia that started in the mid-1960s is often cited as a success case. The Maternal and Infant Health Survey of 1995 revealed that the contraceptive prevalence rate has evolved from 31% in 1978 to 50% in 1988 and to 60% in 1995. Currently, more Tunisian women use modern methods of contraception such as IUD and pills.

Although contraceptive prevalence varies according to a number of factors such as place of residence and level of education, it increased significantly in all categories. For example in 1978, 17% of married women used contraceptive methods in rural areas as opposed to 46.5% in urban areas. In 1995, this proportion was increased to 51.5% in rural areas and to 64.8% in urban areas.

Although the political drive to control fertility started at independence, it is only towards the end of the 1960s that this drive was translated into positive actions when the national family planning programme was launched in 1966. This family planning programme was implemented through a network of clinics, health centres and mobile stations that covered the whole country. The result was that 99 per cent of Tunisian women had a general knowledge of contraception and the contraceptive prevalence rate rose from around 30 per cent in 1978 to more than 60 per cent in the 1990s (Table 14).

Another determinant of fertility decline was the general improvement of the living conditions. The per capita Gross Domestic Product (GDP) increased by more than 700 per cent in a span of 30 years and life expectancy at birth went from 45 years for females and 44 years for males in 1950 to 71 years for females and 69 years for males in 1995 (Table 5). In general 90 per cent of the Tunisians had access to health care, 99 per cent had access to clean water, and 96 per cent had sanitary installations. The illiteracy rate had dropped to 30 per cent while the proportion urbanized had risen to 60 per cent.

### **c. Population policies and strategies**

The family planning programme for Tunisia was adopted in the 1960s and involved public services, non-government organizations (NGO) and religious authorities. To support it, the Tunisian authorities enacted several laws that have had beneficial effect on fertility levels. These include, among others, the adoption of the "Statut Personnel" which protects women, restores gender equality, abolishes polygamy and legalizes divorce and abortion.

The "Office national de la famille et de la population" is the body which coordinates and manages all activities related to population. This office is required to make operational all political decisions, to facilitate interventions related to population, to carry out information dissemination and education and to make available all the needed services and products for family planning.

## **B. Examples of countries undergoing delayed demographic transition in Africa**

### **1. Cameroon**

#### **a. Population dynamics and trends**

The total population of Cameroon was estimated at 14 million on 30 June 1997, which represented an average density of around 30 inhabitants per sq. km. The population has tripled in 47 years, going from 4.5 million in 1950 to 14 millions today. Thus, the average annual growth rate increased from 1.9 per cent in 1950 to 2.8 per cent in 1987, and has since stabilized at that level.

The population is unequally distributed on the national territory. The high migratory movements between rural areas towards fertile lands explain the concentration of three quarters of the total population on only one third of the national territory, leading to serious environmental problems.

Cameroon is a predominantly agricultural country and agriculture employs more than two thirds of the population and contributes to a quarter of GDP. However, from 1985, the country

was heavily struck by an economic crisis whose effect is still felt in all socioeconomic sectors and population groups, especially in the most vulnerable groups.

The population dynamics of Cameroon are characterized by stable fertility rates and gradually declining mortality rates which have led to a high rate of natural increase. Cameroon is thus in the second stage of the demographic transition. The relatively high mortality level is essentially a result of the poor socio-economic conditions while the high level of fertility is a consequence of a number of socio-cultural and economic factors.

#### **b. Socio-economic factors affecting fertility transition in Cameroon**

Education and urbanization of women are the main determinants of fertility levels and trends. High levels of education and urbanization are associated with lower fertility. Early childbearing, short birth intervals, and breast-feeding practices were found to be major explanatory factors of the high levels of fertility. With regard to mortality, socio-economic and cultural factors such as female illiteracy, poor quality of drinking water, poor living conditions in rural areas and some particular districts are major determinants of the high mortality rates.

#### **c. Population and development policies and strategies**

The rapid growth of population observed in Cameroon during the past decades is hampering all economic and social development efforts among which are the continued pauperization of the population, an increase of rural-urban migration, an increase in unemployment and underemployment, a worsening of the state of food insecurity, and a continued degradation of the environment.

Public authorities, with the help of international organisations and in collaboration with NGOs, have tried to put in place a few programmes aimed at altering the negative socio-economic impact of the rapid population growth. For example, since 1991, the Government has prioritized the formulation and implementation of a macroeconomic policy aimed at the reduction of the deficit in the terms of trade, the reduction of public spending, the reduction of public workers, and the reduction of the service to debt ratio.

A National Population Commission was set up in 1985 with the objective of assisting the Government in the definition, orientation and harmonization of a National Population Policy (NPP) which was adopted in 1992. Subsequently, a Population Planning Unit responsible for the integration of demographic factors in development planning was created.

During the implementation of the NPP, the Government conducted a large family survey that allowed the identification of the major factors of demographic behaviour and facilitated taking action on these factors through programmes on education and responsible parenthood. In addition, following the Beijing Conference, the Government set up a policy on women and development, a special programme for the protection of the girl child and a programme to fight poverty that affects the most needy. This was followed, further, by the formulation of a national policy for environmental protection and sustainable exploitation of natural resources.

#### **d. Perspectives of the demographic transition**

Despite the administrative measures adopted for rapid economic growth, the Government is still expected to provide increased efforts to step up investments required to satisfy the needs in all socioeconomic sectors for the growing population. Intensified implementation of the population

policy as well as the family planning programme will be necessary to enable Cameroon to accelerate and sustain the demographic transition.

## **2. Egypt**

### **a. Population dynamics and trends**

The total population of Egypt stood at some 26 million people in 1960 and was above 59 million in 1995. This represents an average annual growth rate of nearly 3.6 percent over the past three decades. The rapid growth of population in Egypt is largely a result of the country's high fertility rate.

At current levels, Egyptian women will bear an average of 3.6 children (Table 14). Though still high, this rate represents a significant decline from the fertility level of the 1980s when women were having an average of more than five births. Fertility levels in Egypt differ by area of residence and educational level. Rural rates are usually higher (4.2 births on average) than urban ones (3 births on average) and females with no-education have usually a higher fertility rate (4.6 births) than females with at least secondary education (3.0 births) (EDHS, 1995).

The crude death rate (CDR) declined after World War Two to reach 17 deaths per thousand in 1960. Much of this decline was due to a reduction in the deaths of infants. Infant mortality levels decreased from 200 deaths per thousand births in the 1940s to 124 in the late 1970s. However, unlike the CBR, the CDR kept a steady decline so that it was estimated at 9.2 in 1986 and at only 6.8 per thousand in 1994. Thus, the natural growth rate stood at 2.2 percent in 1994 compared to 2.9 percent in 1986.

### **b. Socio-economic factors affecting fertility transition in Egypt**

There are several reasons for delayed demographic transition in Egypt. The first one is the age at first marriage, which is still low compared to countries undergoing the demographic transition (EDHS, 1995). Though there has been a steady increase in the age at first marriage, the median age at marriage in Egypt is still at 19.3 years for women between ages 25 and 49 years. Within Egypt, there are large disparities in age at first marriage. For example, in Upper Egypt, which is home to 35 per cent of the population, the median age at first marriage for women aged 25-49 years is still 17.8 years and for 80 per cent of the women in Upper Egypt who live in rural areas the median age at first marriage is 16.9 years. In rural Lower Egypt, which houses a little more than 50 per cent of the population, the age at first marriage is 18.6 years.

The second reason delaying the demographic transition, is teenage childbearing, which is high. The EDHS (1995) indicated that, overall, one in 10 teenagers has given birth or is pregnant with her first child. The highest level is among teenagers in rural Upper Egypt (18 percent) while the lowest is found in urban areas (7 percent).

The third explanation of the delay is the short birth intervals which are common in Egypt. More than a quarter of all non-first births occur within 24 months of a previous birth. One factor contributing to these short birth intervals is the short period of postpartum protection from pregnancy. This protection period is reduced as a consequence of breastfeeding practices, particularly the early introduction of supplementary foods (EDHS,1995).

Another explanation for the delay is related to the trends in family planning use and contraceptive discontinuation. Contraceptive prevalence in Egypt is relatively low at 48 per cent although it represents a substantial increase from the 24 per cent of 1980. Moreover, the 1995 data of the EDHS indicates also that many users discontinue the use of contraception within 11 months

of starting the practice. This discontinuation was found to be usually a result of side effects or health concerns.

### **c. Population policies and strategies**

The concerns about high population growth started early in Egypt. The National Charter adopted in the early 1950s indicated that high population growth constituted a major impediment on the raising of the living standard of the Egyptian people. However, it is only toward the late 1960s that a national family planning program was established with the mandate of reducing fertility while the first population policy was adopted in the early 1970s (UNECA, 1995). The population policy was accompanied with increased governmental activities related to family planning.

In the early 1980s and then again in the mid-1980s, the second and third population policies were adopted respectively. The last policy emphasized the seriousness of the population problem and recognized the interaction between population and development. The National Population Council (NPC) was established in the early 1980s with the mandate to coordinate all efforts in family planning, child welfare, and women's participation in the labour force and education. In the 1990s, following the International Conference on Population and Development (ICPD), a modified population strategy was developed. This new strategy placed greater emphasis on providing reproductive health services and supporting non-governmental organizations (NGOs) in the development of local communities.

### **d. Perspectives of the demographic transition**

The efforts of the government are reinforced by efforts from NGOs, the Cairo Demographic Center (CDC) and the International Islamic Center for Population Studies and Research (IICPSR) of Al-Azhar University. These efforts put together have yielded some positive results. Contraceptive use in Egypt doubled in 15 years, from 24 percent in 1980 to 48 percent in 1995. Moreover, knowledge of family planning methods and sources became universal among women in Egypt. Broadcasts of information about family planning gained wide coverage to the point that more than 80 percent of ever-married women had heard a family planning message. Family planning use gained broad support so that 90 per cent of married women and 80 per cent of married men approved the use of contraceptive methods, while 70 per cent of currently married women used a family planning method at some time in their reproductive life. However, the country as a whole still had a long way to go in order to achieve a successful demographic transition.

## **3. Madagascar**

### **a. Population dynamics and trends**

The population of Madagascar was estimated at 12.21 million by the 1993 General Census of Population and Habitat with a growth rate of 2.7 per cent between 1975 and 1993. It has a global density of about 11 inhabitants per square kilometer, but with great disparities between regions. More than three quarters of the population live in rural areas. The population is characterised by a large number of children and youth and a low proportion of elderly people.

The level of fertility is still high in Madagascar. The General Census on Population and Habitat of 1993 estimated the total fertility rate at 5.9 children per woman with a decline from more than 6 children per woman in the past (Table 14). The mean age of childbearing was estimated at 28.7 years and the net reproduction rate was 2.2 girls per woman.

The mortality rate was also high in Madagascar. The 1993 Census revealed that 93 children out of 1000 die before age one and 69 out of 1000 die between age one and five. Life expectancy increased from 45 to 52 years (Table 5).

Migration, both internal and external, is not important in Madagascar. The Malagasy population is characterized by its great residential stability and by a marked mobility of females. Immigration is very limited in the island and represents only 0, 1 per cent of the resident population. International immigrants come mainly from Europe (40.7 per cent), Indian Ocean islands (38.5 per cent) and Asia (15.0 per cent).

#### **b. Socio-economic factors affecting fertility transition in Madagascar**

The desire for many children is still high in Madagascar. Combined with low contraceptive use and an early age at marriage, the desire for many children is generating a high fertility level of nearly 6 children in the country.

#### **c. Population Policies and Strategies**

Through its population policy which was formulated in 1990, Madagascar has committed itself to improving the living conditions of all categories of the population. For example, the objectives of the National Policy on Population for Economic Development included:

- i) Overcoming the economic, social and political constraints hindering the capacity of the population to ensure its role as an agent for and beneficiary of development;
- ii) Reducing the levels of mortality particularly those of mothers and children; and
- iii) Reducing the fertility level from nearly 6 to 4 children per woman by the year 2000.

The global strategy to implement the population policy consisted of setting up a coordinated programme of family planning with the understanding that every individual is free to choose the number of children to have. Major projects in the field of family planning financed by UNFPA included the promotion of Norplant as a contraceptive method in Madagascar; assisting the Population and Development Unit at the Ministry of Planning; providing IEC in support of reproductive health; conducting a demographic and health survey; and supporting the activities on reproductive health/family planning of the health Department of the Lutheran Church (SALFA).

The private sector is playing a major role in the promotion, distribution and sale of a number of modern contraceptive methods. This complements the efforts made by the public sector. About 38.8 per cent of contraceptives were distributed through the public sector. The integrated Programme on Maternal and Child Health/Family Planning set itself the objective of increasing contraceptive prevalence from 3.5 per cent to 7 per cent in 1995 and to 40 per cent in 2000.

#### **d. Perspectives of the demographic transition**

The level of education and female labour force participation are important determinants of fertility behaviour. But in Madagascar, education standards are low and enrolment rates are falling rapidly. According to the 1993 census, 54 per cent of the Malagasy population is illiterate, women being more affected than men, especially rural women.

Employment creation is one of the greatest challenges for the human development in Madagascar. Although it is not easy to define "unemployment" in Madagascar, the employment crisis is a reality. Agricultural activity is predominant: about 80 per cent of the economically active population is engaged in this sector. There is, therefore, every need for the government to invest heavily on all areas of population and socio-economic development.

#### **4. Mali**

##### **a. Population characteristics and trends**

The population of Mali went from 6.4 million to 7.7 million between 1976 and 1987, which corresponds to an average annual growth of 1.8 per cent while the natural growth rate was estimated at 3.7 per cent. This is an indication that there was high emigration in the above period. Mali is effectively a country of negative net migration. This situation is a result of the climatic, ecologic and economic conditions, which are particularly unfriendly and thus push Malians to emigrate in search of better opportunities. The report of the 1981-1985 economic plan asserts that the revenues generated by Malians living abroad amounted to 3 per cent of GDP per year.

The population of Mali was estimated at 8.9 million in 1995 and was projected to reach 11.9 million in the year 2000. The child mortality rate was 249 per thousand and life expectancy was around 47 years. These indicators reflected poor health conditions for the country. The population structure was characterized by a high proportion of young people as a result of high fertility, which was estimated at 6.7 children per woman. The male population represented 49 per cent and the female 51 per cent of the population. Women in their childbearing age (15 to 49 years) represented 21 per cent of the whole population.

Indicators from demographic surveys and the national population census of 1987, show that fertility levels have remained stable and even increased slightly between 1976 and 1987. The child mortality rate was 250 per 1000 in the 1960s. This rate has fallen significantly due to progress in health care. The last census showed that infant mortality was around 76.26 per 1000 in 1987. There was also an improvement in the life expectancy which went from 35 years in 1960 to 55 years in 1987 (Table 5).

##### **b. Socio-economic factors affecting fertility transition in Mali**

In Mali, the demographic transition has yet to happen. The annual rate of growth is in the order of 3.7 and this is among the highest in Africa. There are several explanations to this situation and they include: i) the persisting traditional beliefs and customs which encourage large families, early marriages and polygamy; ii) the persisting traditional farming which requires a substantial amount of labour and thus the necessity of having many children; iii) the unconducive climatic and ecologic conditions which are leading to increased poverty in rural areas; iv) the economic crisis which is hampering the implementation of all socio-economic development programmes; v) the low level of education and health care as a result of insufficient and inadequate infrastructures; and vi) the failure to integrate population factors in development planning until recently.

The age at first marriage is very low since the median age at marriage is only 16.2 years in urban areas and 15.8 years in rural areas. The level of education has a significant impact on the age at first marriage since age at first marriage increases with the level of education. Therefore, women without education get married at 15.7 years as opposed to 16.3 years for women with primary education and 19.2 years for women with secondary or higher education. Polygamous

unions are very common. At the national level, 45 per cent of married women live in a polygamous union (33 % in urban areas and 48% in rural areas).

### **c. Population policies and strategies**

The rapid population growth rate and the high demographic pressure on natural resources have led the Government to formulate a national population policy (NPP) for which the objective is to ensure sustainable human development with due regard to local traditions and customs. The NPP requires the involvement of everybody. The ultimate goal of this policy is to improve the living conditions through better education, nutrition, health, housing, and employment opportunities.

The national strategy for the implementation of the NPP rests on an institutional structure which comprises: i) the "Conseil national de coordination des programmes de population (CONACOPP)", which is under the umbrella of the Ministry of planning; and. ii) the "Commission nationale de communication pour le développement" in charge of monitoring and evaluation of information, education and communication programmes (I.E.C.).

### **d. Perspectives of the demographic transition**

The first action programme on population and development was formulated in 1996. However its implementation is still hampered by limited financial resources. It is hoped that the above action plan will be implemented and that it will lead to a reduction of the population growth rate in Mali and improve the living standards and quality of life of the population of Mali.

## **5. Nigeria**

### **a. Population dynamics and trends**

Nigeria's population is estimated to have been increasing at 2.8 per cent annually and to have reached 104.6 million in 1996. Population density is fairly sparse (about 100 persons per sq. km.) although there are large population concentrations in the south-west, south-east and north central regions. The crude birth rate and death rate have fallen from 48 and 16 per thousand respectively in 1991 to 39 and 12 per thousand respectively in 1997. During the same period, the infant mortality rate has fallen from 85 to 70 per thousand, the maternal mortality rate from 1500 to 1000 per 100000, while life expectancy has risen from 54 to 58 years (Table 5). The total fertility rate (TFR) is still high but seems to have stabilized at 5 children in 1995-1997 from 6 in 1991 (Table 14).

The national average hides the large variations in fertility levels between sub-groups in the country. According to the 1990 NDHS, the TFR in the Northeast and Northwest was as high as 6.3 and 6.6 respectively, that is higher by nearly one child than the Southern areas. There are also considerable differentials in the fertility levels according to residence and education. Rural women had fertility levels of 6.3 against the urban women whose fertility was 5.0. Better educated women who have attained secondary and higher education had the lowest fertility levels with a TFR that is two children less than the TFR of women with no education or who have been educated only up to the primary school level.

Rapid population growth has had many adverse effects on the economy. Nigeria has some of the fastest rates of urbanization in Africa mainly as a result of natural population increase and rural urban migration. Poverty and unemployment have increased. An estimated 28.9 per cent of

the population lived on less than \$1 a day between 1981 and 1995 while the unemployment rate is estimated to have averaged 2.8 per cent in 1996 (World Bank, 1997). Excessive pressure on social services, rapid increase in imports of food and consumer goods and the emerging phenomenon of street children are some of the other impacts of rapid population growth in Nigeria.

### **b. Socio-economic factors affecting fertility transition in Nigeria**

Various factors account for the high fertility rates observed in Nigeria. Early marriages are still a common practice in many parts of the country. Three quarters (86.7 per cent) of mothers married before the age of 18. The age at first marriage among all women is low (17 years), and the youngest ages at first marriage are found among women in the two northern zones.

Various factors account for the high fertility rates observed in Nigeria. Early marriages are still a common practice in many parts of the country. The use of contraception is fairly limited and there is still a high demand for children due to tradition, religion and high infant mortality in many parts of the country. Only 6 per cent of married women (aged 15-49) actually use any contraceptive methods (3.5 per cent for modern methods and 2.5 per cent for traditional methods. Periodic abstinence (rhythm method), the pill, IUD and injection are the most popular methods among married couples. The contraceptive prevalence is, however, lowest in the northern zones and in rural areas. Knowledge of contraception remains low with less than half of all women age 15-49 knowing any methods.

Changes in postpartum infecundability have greater effects on TFR than other variables do. Breastfeeding habits are similar throughout the country where women breastfeed for an average duration of about 22 months.

In sum the key factors in influencing fertility dynamics in Nigeria are parity, education, age at first marriage, place of residence (urban or rural) and region of residence.

### **c. Population Policies and Strategies**

The reduction in fertility and mortality rates may be explained by the effective implementation of the National Policy on Population (Federal Office of Statistics, Nigeria, 1992). The policy is based on the right of every couple and individual to decide fully on the number and spacing of their children; the right to information and education; and the means to exercise such rights. The policy seeks to improve the quality of life of the population and achieve lower population growth rates through reduction of birth rates by voluntary fertility regulation methods. One of the set targets of the policy included extending the coverage of family planning services to 50 per cent of women of childbearing age by 1995 and 80 per cent by the year 2000.

In order to achieve these and other targets, programmes were implemented which included the regulation and management of fertility and the integration of family planning services into the Primary Health Care (PHC) Programme. The PHC Programme, which is protective, preventive, restorative and rehabilitative, remains the cornerstone of the National Health Policy and strategy.

Population policies and strategies have, in effect, stabilized the fertility rates and slowed population growth due to improved knowledge and wider use of contraception and other family planning services. Health policies and strategies adopted have resulted in an improvement of health care facilities and services and consequently in a decline and subsequent stability in infant and maternal mortality rates and the crude death rate.

Government efforts have been supplemented by those of non- governmental agencies such as the UNFPA, the International Planned Parenthood Federation (IPPF) and the Planned Parenthood Federation of Nigeria (PPFN) which operates family planning clinics in all the states.

**d. Perspectives of the Demographic Transition**

Available data show that Nigeria has started the demographic transition. A major issue, however, is whether the decline in fertility is real or due to problems in the data. While some evidence suggests that there has been an underestimation of births, data on other proximate determinants of fertility appear to be inconclusive.

There is a need to strengthen initiatives made in health care to ensure that preventive and curative health services reach many women and children. This will contribute to the achievement of a sustained demographic transition.

Economic difficulties in maintaining large families as a result of the economic crisis is forcing people to change traditional beliefs in large family sizes and the traditional system of African extended family that had hitherto led to high fertility rates. At the same time, the desire for child bearing is still strong in Nigeria particularly in the rural areas. This has given rise to the strong view that the levels of fertility and contraception use are not likely to change until there is a drop in desired family size and until the idea of reproductive choice is widely accepted.

#### IV. LESSONS ON THE STATE OF THE DEMOGRAPHIC TRANSITION FROM ASIA

##### A. General

The demographic transition from high to low birth and death rates took nearly two centuries to complete in Europe and North America. However, this transition is occurring much faster in most developing countries especially those in East Asia, South Asia and Latin America. In almost all countries of these regions, death rates have fallen substantially. These regions also recorded significant declines in their birth rates which helped to check the potentially explosive growth rate in population that would have arisen from the sharp decline in mortality levels (Table 15).

**Table 15. The Demographic Transition in East Asia, South Asia and Latin America**

Country	Change in crude birth rate	Change in crude death rate	Average annual growth of population	
	1965-80	1965-80	1960-70	1980-90
<b>East Asia</b>				
Hong Kong	-52	-54	2.5	1.4
Indonesia	-40	-55	2.1	1.8
Korea	-54	--	2.6	1.1
Malaysia	-25	-58	2.8	2.6
Singapore	-45	-16	2.3	2.2
Thailand	-46	-30	3.1	1.8
<b>Latin America</b>				
Brazil	-31	-36	2.8	2.2
Mexico	-40	-55	3.3	2.0
Peru	-33	-50	2.9	2.3
Venezuela	-31	-38	3.8	2.7
<b>South Asia</b>				
Bangladesh	-27	-33	2.5	2.3
India	-33	-45	2.3	2.1
Nepal	-13	-42	1.9	2.6
Pakistan	-13	-43	2.8	3.1

Source : Adapted from world Bank, 1993

During the period 1965-80, all countries of the above three regions (South Asia, East Asia and Latin America) experienced a marked decline in their crude death rates (Table 15). The decline recorded in most countries was between 30-40 per cent. On the other hand, there was a substantial variation in the decline of the crude birth rate. The decline was around 10-30 per cent in South-Asia and 30-40 per cent in Latin America. The sharpest decline was recorded in East Asia: 40-50 percent.

Consequently, the rate of population growth declined in all East Asian countries, in some cases quite sharply. For example, in Korea it fell from 2.6 per cent a year in 1960-70 to 1.1 per cent in 1980-90; from 2.5 to 1.4 per cent in Hong Kong; and from 3.1 to 1.8 per cent in Thailand. In Latin America, fertility declines were also sufficient to reduce population growth rates, though generally not on the levels observed in East Asia. In South Asia the picture is mixed, with fertility declines sufficient to reduce the rate of population in Bangladesh, but insufficient in Nepal or Pakistan.

It is often considered that the demographic transition theory holds only at high levels of per capita income, industrialization and urbanization. Thus, the East Asian demographic transition can be seen as following the above rule as it happened with rising levels of the above mentioned

factors. However, a number of lessons can be drawn for Africa from the selected cases discussed in this section.

## **B. Sri Lanka**

In South Asia the demographic transition occurred during conditions of low economic growth and low per capita income, industrialization and urbanization. These conditions were nearly similar to those prevailing in most of Africa today.

Caldwell (1982) asserted that Sri Lanka had almost completed the demographic transition with low mortality and fertility rates approaching replacement levels. This was in contrast with most of the other parts of South Asia where mortality and especially fertility rates remained high. The explanation given for this transition were the changes that occurred in the socio-economic system and reduced the centrality of the family in wider social and economic relations, and empowered an individual to exercise his ability and talents freely.

In 1945 the crude death rate was 21.5 per thousand, but was halved to 11.0 per thousand ten years later. Similarly life expectancy was increased by 16 years in less than ten years, from 42.2 years in 1946 to 58.2 years in 1953. By 1991, life expectancy was marginally below that of the developed countries since it stood at 72.5 years. The declines in infant and maternal mortality rates were even more spectacular. In five years, between 1945 and 1950, the infant mortality rate dropped by more than 40 per cent and between the 1950s and the 1990s it fell by more than 75 per cent to reach a rate of less than 20 per thousand. Maternal mortality fell from 1650 per 100,000 in 1945 to 50 per 100,000 in 1985 which is a drop of more than 95 per cent. This fall in mortality levels was attributed to an efficient and effective public health system.

Fertility rates began to fall in the early 1950s and have continued ever since so as to exceed marginally the long-term replacement fertility level of 2.2 children. This fall in fertility was attributed to changing marriage patterns and a strong family planning programme.

Currently, the Sri Lankan family is essentially a nuclear family composed of only the husband, the wife and the dependent children (where the extended family has a minimal role to play as opposed to most other developing regions). The impact of this family structure is that it contributes to fertility decline by raising the cost of children and by reducing the long-run benefits to be gained from them. This family structure has facilitated female education and reinforced the position of women in society. Thus, Sri Lanka's women have a strong say on health and fertility decision making in contrast to other developing regions where women are marginalized. This changing socio-economic system which reduced the centrality of the family in wider economic relations and elevated individual enterprise pushed up the female age at marriage. Age at first marriage rose by six years from 18 years in 1901 to more than 24 years in 1981. This rise in age at marriage was the major determinant of the decline in fertility up to 1963 and continued to be among the main explanatory factors of this fertility decline up to 1975. Thereafter, continued fertility decline was attributed mostly to declines in marital fertility as a result of a well-funded and implemented family planning programme (Caldwell, 1982).

## **C. Indian Village of Kerala**

In the Indian village of Kerala, fertility declined substantially during the 1970s and reached replacement levels in the 1990s. The main determinants of this fertility decline were the postponement of age at marriage (29 years for men and 23 years for women) and an extensive use of contraceptives. The changes in the above factors were mainly attributed to favourable

conditions resulting from socio-economic changes such as education, higher and more costly living standards (better health and lower mortality) and decreasing opportunities in the agriculture sector.

The crude birth rate for the district where the village is located fell from 36.5 per thousand in 1965-70, to 26.2 in 1970-75 and 21.8 in 1975-80 while the village crude birth rate stood at 18.2 per thousand. In the same period the death rate for the district fell from 7.0 to 6.7 per thousand while it stood at only 4.5 per thousand for the village. The analysis of these fertility levels and trends indicates that the two major factors of fertility decline were deferment of marriage and control of marital fertility. During the early stages of fertility decline delayed marriage was the main contributing factor to fewer births while marital fertility control through extensive use of family planning acted at a later stage to generate a steeper fall in fertility rates than it was previously the case.

Delayed marriage age and the deliberate attempt to limit fertility was a response to the overall societal changes, especially to the perceived economic cost of bearing and rearing children. The general feeling was that children cost more as a result of higher living costs and higher expenses on education and medical care. Other major issues were the decreasing opportunities in agriculture which reduced the need for child labour, as well as the costs in health, time and other resources born largely by women in child bearing and child rearing.

#### **D. General Overview**

Generally, therefore, the demographic transition that occurred in parts of South Asia was a consequence of two major factors: an increase in age at marriage and control of marital fertility. The delayed age at marriage was a result of socioeconomic changes which were mainly a consequence of a better educational and health care system, while the control of marital fertility was a result of a well planned and carefully executed family planning programme. However, these factors were accompanied by other societal changes that reinforced their impact. Among these was the increasing centrality of the family, the increasing cost of living and the decreasing opportunities in agriculture.

South Asia provides us with lessons that support the major experiences taking place in Africa. What is required is for Africa to seriously adopt these experiences and those emerging from some selected African countries to strengthen and sustain the demographic transition.

## **V. BEST PRACTICES, CONSTRAINTS, LESSONS LEARNED AND THE WAY FORWARD FOR AFRICA**

Many African countries have, during the past two to three decades, formulated and implemented population policies as integral parts of their development plans. This study has given us the opportunity to identify best practices, constraints and lessons learned. These are synthesized in this section as a link to the way forward.

### **A. Best practices from African countries**

The decline in fertility in Mauritius is assumed to be the most rapid fertility decline in the world, at least at the national level. Available information attributes the decline in fertility in Mauritius to several factors (for example, see Lutz, 1999). The rapid transition in marriage patterns (marriage postponement) and in marital fertility seems to explain the extraordinary speed of Mauritian fertility decline. About half of the births averted between 1962 and 1972 were attributed to marriage postponement and the other half to marital fertility. The provision of basic education especially for women was also a major factor in explaining the onset of fertility decline. Other important factors included the peaceful co-existence between the religions and religious leaders and their flexibility on family planning issues. Strong family planning efforts based on a broad consensus and actively supported by government were centred on both propagating smaller families and providing efficient contraceptive methods together with improved health care and counseling. In fact, the density of family planning clinics in Mauritius in the 1970s was one of the highest in the world.

In a somewhat similar manner, Botswana provides a best practice in fertility reduction. This was largely rooted in the many pragmatic and positive policies pursued during the 1980s and 1990s. These policies include a judicious utilization of its huge revenue from the diamond industry to extend social benefits in health and education to a wide spectrum of population as well as investing in the key physical and institutional infrastructures to facilitate the delivery of these services, provision of universal and free primary education and efforts to close the gender gap in accessing education, and employment, particularly for women. Concerning health, provided policies promoted a systematic and integrated health care system that incorporated preventive care, primary health care and family planning services including mother and child health.

The government has recently adopted a population policy designed to ensure that population factors are properly integrated into development planning at all levels including mechanisms to promote the coordination of the various intervention efforts undertaken by all institutions and the private sector. And like Mauritius, relative peace, stability and democracy have been important factors in explaining the fertility decline.

The case of Tunisia could be explained by the general improvement in the living standard and the implementation of a clear, well-designed and well planned family planning and health programme. The country's population policy is also backed by relevant legislation (such as abolishing of polygamy and legalizing divorce and abortion) and by the political will at the highest level. Here the decline in fertility could be attributed to, in particular during the last twenty five years, joint actions to raise the age at first marriage and the use of contraceptives.

To a great extent, the experience of Botswana, Mauritius and Tunisia bears some similarities with that of some Asian countries. The demographic transition that occurred in parts of South Asia as the examples from Asia show, was a consequence of two major factors: an increase in the age at marriage and control of marital fertility. The delayed age at marriage was a result of

socio-economic changes which were mainly a consequence of a better educational and health care system while the control of marital fertility was a result of a well planned and carefully executed family planning system. These factors were, however, accompanied by other societal changes which re-enforced their impact. These other factors included the increasing centrality of the family, the increasing cost of living and decreasing opportunities for employment in agriculture.

## **B. Constraints in countries undergoing delayed demographic transition**

Information on Cameroon, Egypt, Madagascar, Mali and Nigeria shows that these countries had also formulated population policies and implemented family planning programmes similar to those implemented in Botswana, Mauritius, Tunisia and the selected South Asian Countries. An important question at this juncture, therefore, is why did countries such as Botswana, Mauritius and Tunisia achieve sustained fertility and mortality declines while the others are at an early stage of the transition?

Following the World Population Plan of Action (WPPA) adopted at the global population and development conference held in Bucharest in 1974 and the Kilimanjaro Programme of Action (KPA) adopted at the Second African Population Conference in Arusha in 1984, African countries made considerable progress towards collecting, analyzing, and utilizing population and development data from population censuses and household sample surveys. The KPA recommendations in such areas as fertility and family planning, mortality and mobility, urbanization and migration, and women in development also guided the formulation of goals, objectives and implementation strategies of population policies during the mid-1980s.

However, as the review of the implementation of the KPA recommendations at the third African Population Conference in Dakar in 1992 shows, fertility is still high in most African countries in spite of the increasing number of African countries with explicit population policies formulated since 1985.

In Cameroon, Mali and Nigeria the fertility rate is still higher than 5 children per woman. In Nigeria for example, despite much progress made in many areas including education, health and population activities, early marriages, the limited use of contraception and the high demand for children due to tradition, religion and high infant mortality in many parts of the country are some of the factors which explain the high fertility rates. Other factors include the formulation and implementation of a multitude of programmes, involvement of a large number of institutions in population activities, and lack of effective co-ordination. In Mali, the persistence of customs and ancestral beliefs favouring large families, early marriages, polygamy, and the need for more children to assist in food and livestock production are some of the major factors that have constrained fertility reduction. The low level of education and limited access to health facilities due to inadequate infrastructure have also played a major role in this regard. And equally, if not more important, only until very recently did Mali begin to integrate population factors in the economic development and planning process.

Since the 1960s, the integration of population factors in the development plans (IPDP) of these countries became an important process in population management. However, the progress with the IPDP process was constrained by the difficulty of defining "Integration", the lack of a critical mass of skilled human resources, the inadequacy of data on the population and development inter-linkages and the lack of appropriate methodology for integration (ECA, 1997). There is, therefore, a need for intensified efforts in human capacity building, data collection, and development of methodologies for integration.

### **C. Lessons Learned on the demographic transition in Africa**

The demographic transition in selected countries of Africa has been a consequence of two major factors: an increase in the age at marriage and control of marital fertility. Socio-economic changes, especially with regard to better educational and health care systems, as well as a well planned and carefully executed family planning system contributed to the transition. Additional factors include societal changes; extending social benefits to a wide spectrum of population; investing in key physical and institutional infrastructures to facilitate the delivery of services; and making efforts to close the gender gap in accessing education, and employment, particularly for women.

Consequently, for countries such as Botswana, Mauritius and Tunisia, the challenge is to sustain the transition but avoid lowering fertility below replacement levels. For countries which are in early stages of the transition, the challenge is for them to adapt and practice the lessons provided by Botswana, Mauritius and Tunisia while avoiding the mistakes of those countries such as Cameroon, Mali and Nigeria.

### **D. Lessons from South Asia**

Lessons learned from South Asia reinforce some of the experiences taking place in Africa. Delayed age at marriage as well as the control of marital fertility were important factors in the demographic transition. These factors were, however, accompanied by other societal changes that reinforced their impact. This suggests that the creation of certain social and economic conditions provides an environment in which relevant factors optimally operate.

### **E. The way forward**

This section is devoted to the way forward for the majority of countries in Africa still experiencing high fertility rates. The integration of population factors in national development plans, supporting late age at first marriage and the implementation of family planning programmes provide the way forward.

Many family planning programmes have not achieved the desired results because of several reasons. In this connection it is instructive to refer to some pre-conditions for the introduction of deliberate family limitation (Coale and Watkins, 1986):

- i) Fertility must be within the calculus of conscious choice due mainly to a psychological and cultural transition that is seemingly and intimately tied to education, especially female education;
- ii) Reduced fertility must be advantageous to families through, for instance, reducing the high cost of education and increasing the desirability for education as a prerequisite for employment and future careers; and
- iii) Effective contraceptive techniques should be made available.

It is evident that the countries that have been successful in reducing their fertility and mortality rates met these preconditions. Together with these preconditions, the way forward is to formulate and implement population and development policies and strategies with the following components:

- i) Ensure that population measures or factors that are integrated into national development plans are empirically derived from proper population/development interrelationships;
- ii) Prepare realistic strategies that incorporate long-term national objectives derived from the global and regional frameworks such as the DND, ICPD-PA, Agenda 21, Habitat II, and World Food Summit Plan of Action;
- iii) Promote introduction of social and economic policies that provide sustainable livelihoods, reduce poverty, and provide alternatives to the demand for many children;
- iv) Define more accurate family planning programme objectives by carrying out a realistic assessment of the requirements for and demands from the target population;
- v) Provide consistent support to the family planning programme at the highest political level and financial support to the programme;
- vi) Ensure legislation that plays a catalytical role and gives the programme a crucial legal framework;
- vii) Develop a meaningful information, education and communication (IEC) programme for the target populations including different social and professional categories and specific risk groups (such as adolescents, youths, and school girls);
- viii) Reduce the number of sectors involved in the implementation of these policies and strategies; and
- ix) Institutionalize a mechanism for effective monitoring, evaluation and co-ordination.

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## VII. FIGURES

**Fig. 1- Total population by major area and region, 1950-2050**

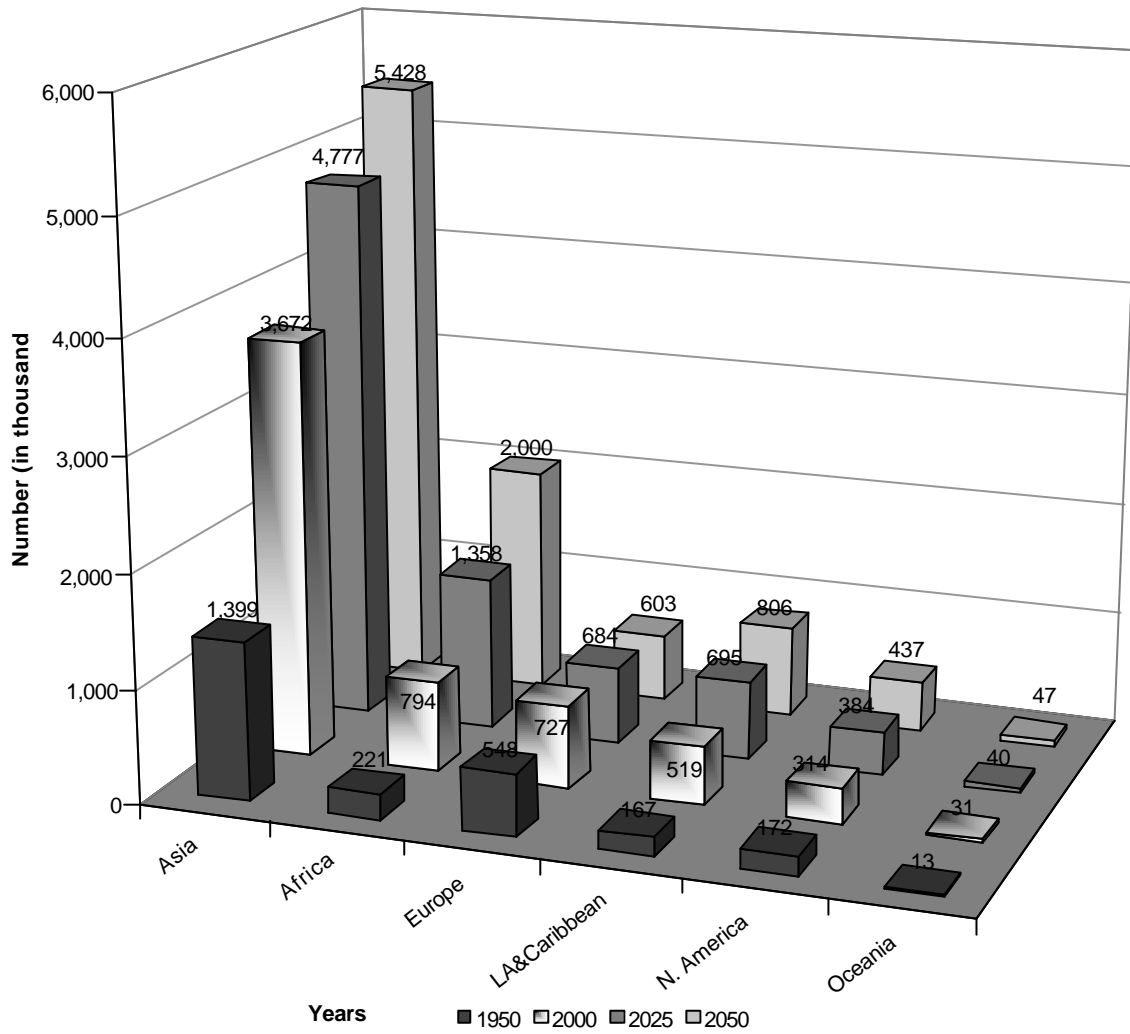


Fig. 2a Percentage of world population by major area  
1950

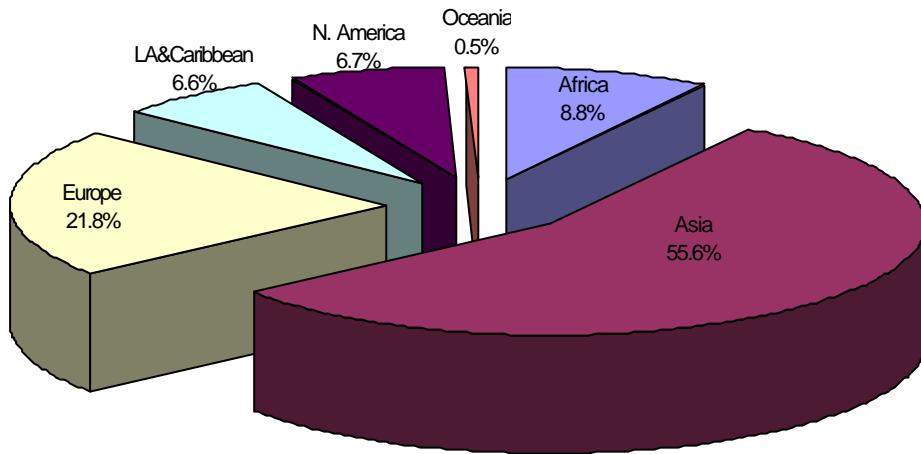


Fig. 2b Percentage of world population by major area  
2000

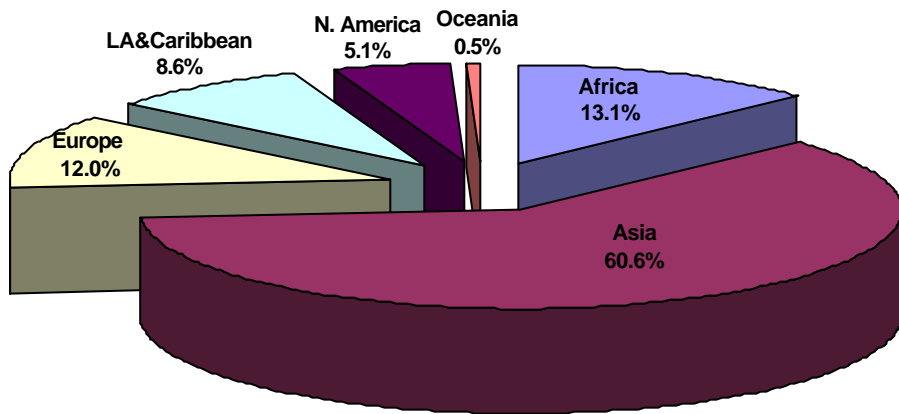


Fig. 3 Annual rates of world population growth by major area, 1950-2000

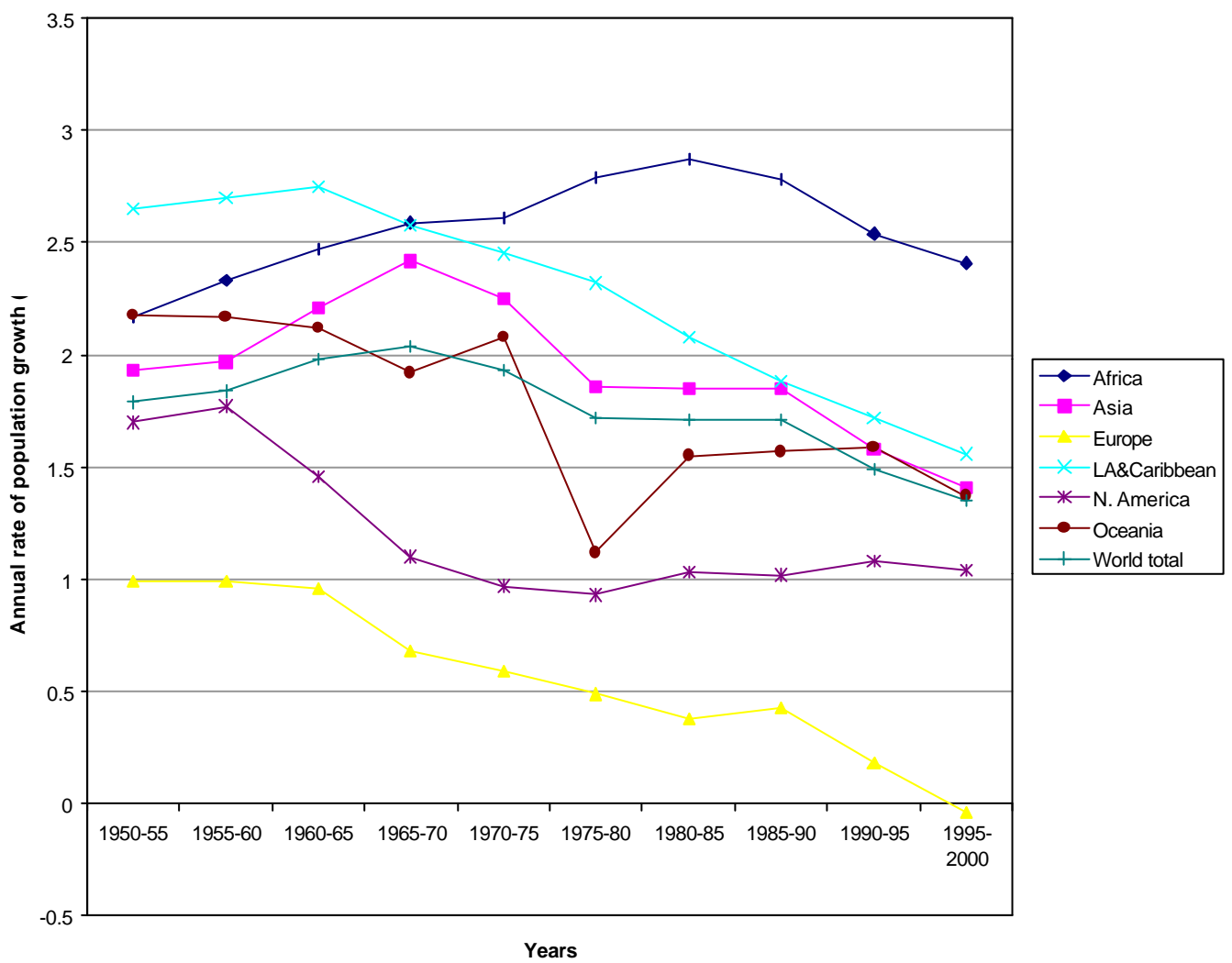


Fig. 4 Crude birth and death rates of Africa, 1950-2000

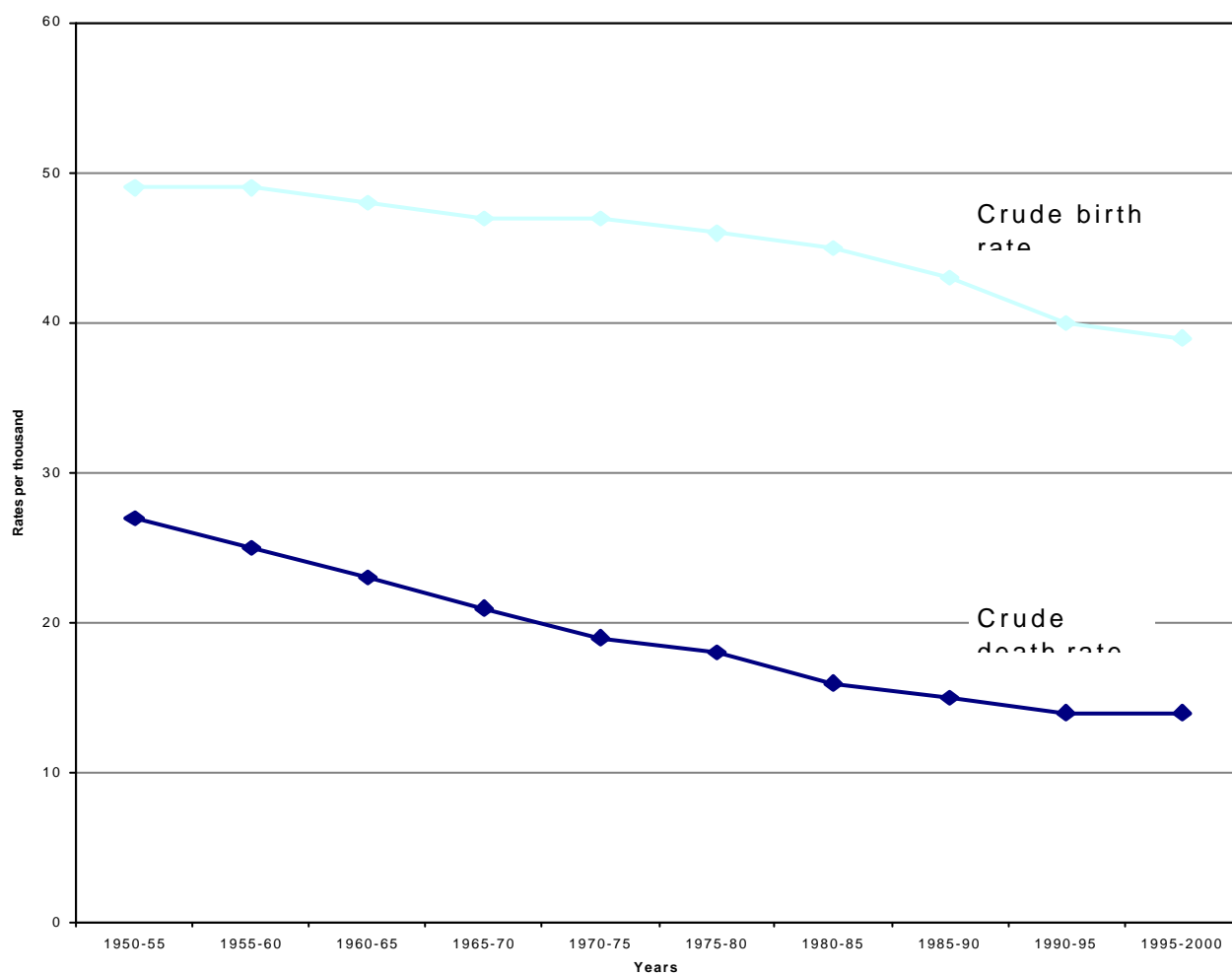
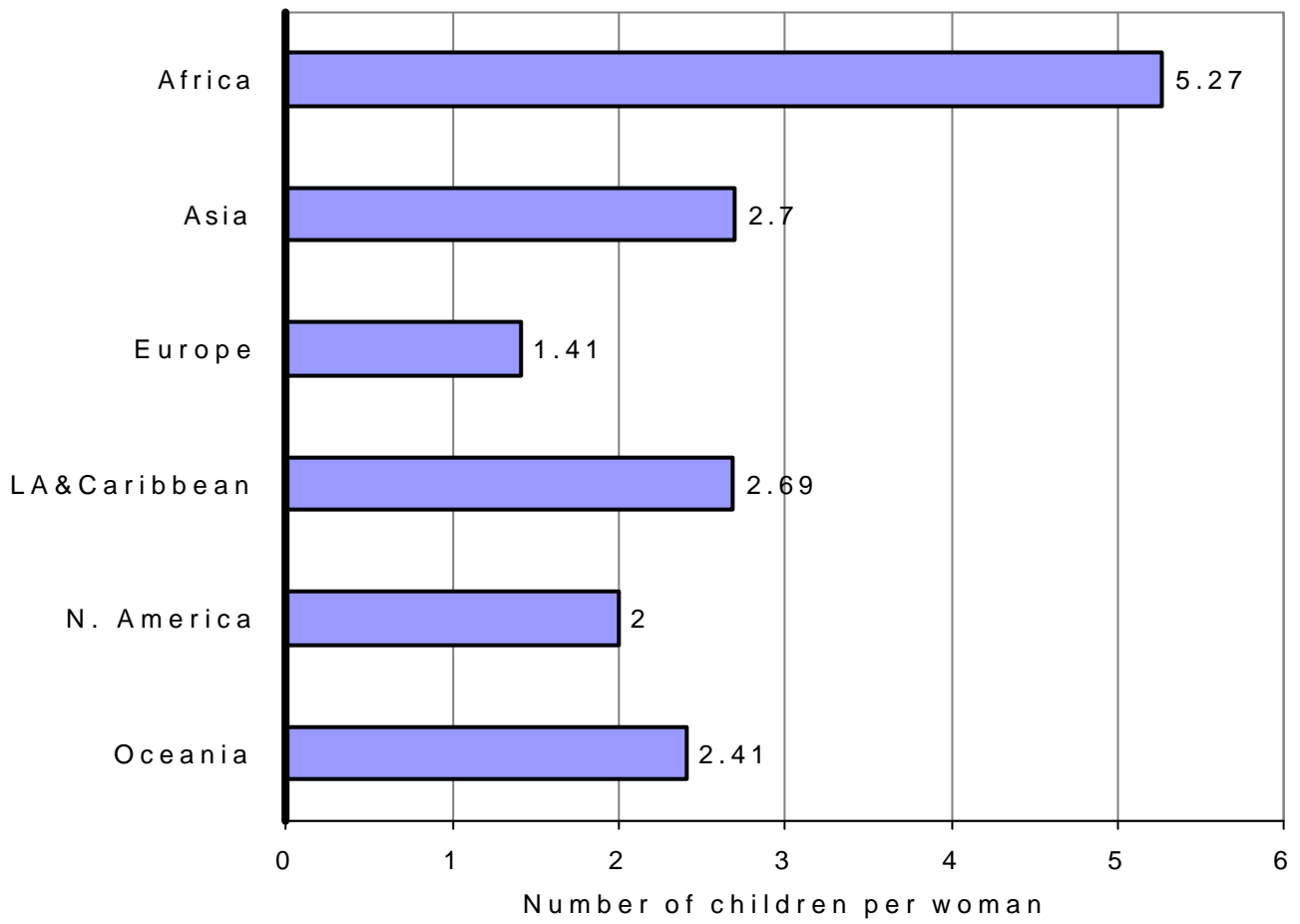


Fig. 5 Total fertility rates by major areas in 1995-2000



## VIII. ANNEX TABLES

<b>ANNEX TABLE 1. TOTAL POPULATION BY MAJOR AREA AND REGION, 1950-2050</b>				
<b>Major area and region</b>	<b>1950</b>	<b>2000</b>	<b>2025</b>	<b>2050</b>
<b>A. Population in millions</b>				
World	2,519	6,057	7,937	9,322
Asia	1,399	3,672	4,777	5,428
Africa	221	794	1,358	2,000
Europe	548	727	684	603
LA&Caribbean	167	519	695	806
N. America	172	314	384	437
Oceania	13	31	40	47
<b>B. Percentages</b>				
World	100	100	100	100
Africa	8.8	13.1	17.1	21.5
Asia	55.5	60.5	60.1	58.2
Europe	21.8	12	8.6	6.5
Latin America and Caribbean	6.6	8.6	8.8	8.6
Northern America	6.7	5.1	4.8	4.7
Oceania	0.5	0.5	0.5	0.5
<i>Source: United Nation, 2001. World Population Prospects, 2000, pp. 480</i>				

**ANNEX TABLE 2. ANNUAL RATE OF POPULATION CHANGE BY MAJOR AREA AND REGION, 1950 TO 2000 (%)**

<b>Major area/region</b>	<b>1950-55</b>	<b>1955-60</b>	<b>1960-65</b>	<b>1965-70</b>	<b>1970-75</b>	<b>1975-80</b>	<b>1980-85</b>	<b>1985-90</b>	<b>1990-95</b>	<b>1995-2000</b>
World total	1.79	1.84	1.98	2.04	1.93	1.72	1.71	1.71	1.49	1.35
Africa	2.17	2.33	2.47	2.59	2.61	2.79	2.87	2.78	2.54	2.41
Asia	1.93	1.97	2.21	2.42	2.25	1.86	1.85	1.85	1.58	1.41
Europe	0.99	0.99	0.96	0.68	0.59	0.49	0.38	0.43	0.18	-0.04
LA&Caribbean	2.65	2.7	2.75	2.58	2.45	2.32	2.08	1.88	1.72	1.56
N. America	1.7	1.77	1.46	1.1	0.97	0.93	1.03	1.02	1.08	1.04
Oceania	2.18	2.17	2.12	1.92	2.08	1.12	1.55	1.57	1.59	1.37

*Source: United Nation, 2001. World Population Prospects, 2000, pp. 486*

**ANNEX TABLE 3. CRUDE DEATH RATES AND CRUDE BIRTHS RATES BY MAJOR AREA AND REGION, 1950-1955 TO 1995-2000**

Major area/region	1950-55	1955-60	1960-65	1965-70	1970-75	1975-80	1980-85	1985-90	1990-95	1995-2000
1. Crude death rates per 1000										
World total	20	17	16	13	12	11	10	10	9	9
Africa	27	25	23	21	19	18	16	15	14	14
Eastern Africa	28	26	23	21	20	19	18	17	18	18
Middle Africa	28	26	25	23	21	19	17	17	16	16
Northern Africa	25	22	21	19	16	14	12	10	8	8
Southern Africa	21	19	17	15	14	12	11	10	9	12
Western Africa	29	27	25	23	21	20	18	17	16	15
Asia	24	20	18	14	11	10	10	9	9	8
Europe	11	10	10	10	10	10	11	11	11	12
Latin America and Caribbean	16	14	12	11	10	9	8	7	7	7
Northern America	9	9	9	9	9	9	9	9	9	8
Oceania	12	11	11	10	10	9	8	8	8	8
2. Crude birth rates per 1000										
World total	38	36	35	34	31	28	27	27	24	23
Africa	49	49	48	47	47	46	45	43	40	39
Eastern Africa	50	50	50	49	49	48	47	46	44	43
Middle Africa	46	46	47	47	47	47	48	47	47	46
Northern Africa	49	47	47	45	43	41	39	35	30	28
Southern Africa	44	43	42	40	38	36	35	32	28	28
Western Africa	50	50	49	49	49	49	48	46	44	42
Asia	43	40	38	38	34	29	28	28	25	22
Europe	22	21	17	17	16	15	14	14	12	10
Latin America and Caribbean	42	41	38	38	35	33	30	28	25	23
Northern America	25	25	18	18	16	15	16	16	16	14
Oceania	28	27	24	24	24	21	20	20	20	18

*Source: United Nation, 2001. World Population Prospects, 2000. pp. 568-574 and 600-606*

**ANNEX TABLE 4. TOTAL FERTILITY RATES BY MAJOR AREA AND REGION,  
1950-1955-1995-2000**

Major area/region	Total fertility rates			
	1980-1985	1985-1990	1990-1995	1995-2000
World	3.56	3.35	3.07	2.82
Oceania	2.59	2.52	2.51	2.41
N. America	1.8	1.89	2.02	2
LA&Caribbean	3.86	3.35	2.97	2.69
Europe	1.88	1.83	1.58	1.41
Asia	3.66	3.38	2.95	2.7
Africa	6.4	6.05	5.61	5.27
Eastern Africa	6.88	6.69	6.34	6.09
Middle Africa	6.59	6.58	6.52	6.41
Northern Africa	5.54	4.83	4.09	3.58
Southern Africa	4.71	4.05	3.48	3.29
Western Africa	6.99	6.73	6.35	5.95

*Source: World Population Prospects, 1995. United Nation, 2001. World Population Prospects, 2000. pp. 584-590*