FSSDD/97/26

UNITED NATIONS

ECONOMIC COMMISSION FOR AFRICA

FACILITATING THE DEMOGRAPHIC TRANSITION IN AFRICA: ISSUES AND CHALLENGES

VOLUME I: MAIN REPORT

FSSDD
DECEMBER 1997

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EXECUTIVE SUMMARY

The study attempts to assess the socio-economic and demographic transition in the selected countries. The purpose is to analyse factors and issues delaying the demographic transition in Africa compared with other world regions, identify the main factors (economic, demographic, social, cultural, biological) facilitating a significant mortality, fertility and population growth declines in Africa, formulate policy and programmes recommendations in view of the need of facilitating the demographic transition in the continent.

In the analysis of demographic evolution and its determinants, the paper makes use of published data, mainly from censuses, the World Fertility Surveys (WFS), the Demographic and Health Surveys), and also refer to the results of comparative analyses already undertook on the subject by several individuals and organizations.

A. Background of the demographic transition in Africa

African countries are becoming increasingly aware of the interplay between population and development: population growth influences socio-economic development process which in turn affects the demographic transition. Furthermore, various studies conducted to identify the underlying causes of the socio-economic problems currently facing African countries have shown that the rapid population growth in Africa, combined with little scientific and technological progress, seem to have adverse effects on the development process.

Accordingly, African countries recognized in Dakar (Third African Population: 1992) and Cairo (International Conference on Population and Development: 1994) that, in spite of the steps taken to boost economic growth, their Governments have hardly been able to satisfy the increasing basic needs of the rapidly-growing population such as education, health, employment, housing, transport, food, land, water, physical planning, etc. The need to study the demographic evolution, using the demographic transition theory is therefore paramount in the Africa region in order to identify what kinds of explanatory variables are associated with the unaccomplished or delayed demographic transition.

The theory of demographic transition postulates that every population passes through the same broad phases of demographic change over time. Although the theory attempts to explain the demographic evolution in Western countries, it has to be noted that the demographic transition occurred in many countries of other Third World regions where demographic patterns were very similar in the 1960s to those prevailing in Africa at that time. Additionally, it has been documented that the transition to lower fertility is already under way is some African countries like Mauritius, Tunisia, Kenya, Botswana, and Zimbabwe.

The question of the universality of the theory of the demographic transition is therefore not debated in the study. Assuming that the theory is applicable to African populations, the paper shows,

from the analysis of available data and from the results of various studies and researches, that nearly all African countries are at the second stage of the demographic transition with population growing rapidly, at a rate well over 2.5 p.100.

Since it will be found that the prevailing rapid population growth of Africa is the result of high and stable fertility levels and high but declining mortality levels, the main question addressed by the study is whether African countries can draw on the past demographic experiences of western industrialized countries as well as of group of countries of South Asia, East Asia and the Pacific, Latin America and the Caribbean in order to undergo demographic transition.

B. Population dynamics in Africa

The total population of Africa, as estimated by the medium variant of the United Nations 1994 assessment, is 760 million in 1997. The average annual rate of growth of population was 2.2 percent in 1950-55, has remained between 2.5-2.6 percent per annum during the period 1955 to 1994 and is estimated at 2.7 per cent for the period 1995-2000. At these rates of growth the population of Africa is expected to cross the one billion mark between 2OO5 and 2OlO. Prevailing rapid population growth in Africa is the result of high and stable fertility levels and high but declining mortality levels.

Relative to fertility, Africa have currently 5.4 births per woman while those in Europe have about 1.6 children, those in North America about 2.1 whereas women in Asia and Latin America have about 2.9 births. Between 1965-1970 and 1980-95, the Asian, Latin American, Northern American and the Oceania major areas saw sizeable reductions in the level of their Total fertility rates (TFR). Most notable, were the Asian and Latin American major areas where TFR declined from about 5.5 to around 3 births per women. Trends in the TFR since 1950 show no significant declines in fertility in Africa. Since 1950, the TFR has been more than 6 births per woman. More recently the TFR has declined slightly, from 6.6 in 1975-80 to 6.1 in 1985-90 and to 5.8 in 1990-95.

This decline is largely attributable to the Northern and Southern Africa sub-regions where a secular decline occurred from 1960-65 to 1990-95 from 7.1 to 4.2 in North Africa and from 6.5 to 4.2 in Southern Africa. In the other three sub-regions the level remained almost constant around 6.5. The high levels of fertility in sub-Saharan Africa have been explained by the high levels of infant and child mortality and by the high value placed on children deriving from the socio-economic and cultural constructs of the African tradition-lineage and land tenure systems.

Current levels of mortality are still high, by world standards. Life expectancy at birth is currently estimated at 54 years for Africa, 77 years for North America, 73 years for Europe, 70 for Latin America and 66 for Asia. Since 1950, the population of Northern Africa and Southern Africa have exhibited longer life expectancy at birth than those of Eastern, Middle and Western Africa. During 1950-55 the difference was about 5-6 years, but the difference has currently increased to about 12-14 years. In all regions, however, life expectancy has increased steadily since 1950.

Projections of the United Nations indicate that life expectancy at birth, which currently stands at 56 years, will increase by 12 years by 2015-2020. The infant mortality rate will decline from 93 per thousand now to 54 per thousand in 2015-2020. At this time, i.e. 2015-2020, single digit rates would have been attained by North America and Europe.

Relative to population distribution, the two common patterns in Africa include the uneven spatial distribution of the rural population and the disproportionate concentration of the urban population in a single metropolitan centre. Two aspects of the development of urbanization in Africa that mark out the continent from other world regions are the low levels of urbanization and the high rates of urban population growth. As regards to international migration, the main type involves inter-country movements and one important class of inter-country movements in Africa is the large scale migration of refugees. In this connection, it should be pointed out that the African refugee problem started becoming significant in the 1960s and during the 1980s and the 1990s the number of refugees peaked at 5 million.

The major refugee generating and receiving countries have changed over the years. However, the evidence establishes that in recent years, the countries of East and Central Africa, especially Ethiopia, Somalia, Sudan, Malawi, Tanzania and the Democratic Republic of Congo remain as the major hosting locations of refugees.

C. Socio-economic evolution

In the last two decades, there was an improvement in education in Africa and particularly in the Sub-saharan Africa (SSA) subregion in terms of school enrolment. However, compared to other developing regions of the world, male and female enrolment at both primary and secondary school levels in SSA were the lowest. According to the data, male and female enrolment in East Asia, South Asia and Latin America and Caribbean was two to three times higher than in SSA. With nearly, 60% of the female adults illiterate in SSA in 1995 and one-third of male adults illiterate in the same year, the SSA thus appears to have the second highest illiteracy rates in the world, after South Asia.

The data also show that between 1980 and 1992 the nutritional level of the population did not improve much. In fact there was a marked deterioration in total food supply in 17 countries while there was a marginal improvement in 14 countries. Only in 5 of the countries is the total food supply in terms of the calories per capita per day up to the minimum recommended for an active, healthy life.

Indicators of poverty show that in 1995 SSA had a GDP per capita of only $490 in 1995 dollars. Except for South Asia which had a GDP per capita of $350, SSA had the lowest per capita GDP in the World. Between 1985 and 1995 out of the 36 countries for which data were available, in 18 countries the GDP per capita experienced negative growth rates. The gravity of the poverty situation is striking when one considers that out of 22 countries for which data are provided, more than 40% of the population lived on less than $1 a day in 10 countries between 1981 and 1995.

Although a positive recovery of the economic growth has been recorded in Africa in recent years, variations exist in country and subregional performances. The growth of GDP was related mostly to the good performance of the manufacturing sector and a modest rebound in the mining sector. Differences among individual African countries and groups of countries with the potential for rapid growth and socio-economic transformation have persisted but current indications are that the capacity of african societies and economies for real and sustained growth are being increasingly realized.

However, due to a stagnation of overall agricultural output in the region and to a drastic deterioration in per capita agricultural production in some subregions, the value added in agriculture recorded an important decline in 1995, with a growth rate of 1,5 per cent compared to 4,2 per cent in 1994. Food situation still remain a great concern in some parts of Africa. Some countries still need food assistance. The whole region experienced a food deficit of 19.6 million mt in cereals in 1995.

There have been some improvements in Africa's external trade. Export earnings increased, resulting partly from modest increase in oil prices. On the other hand, the value of imports have also increased, particularly food imports. However,intra-African trade remained low as it has always been, due to the fact that many of the constraints that have hindered the development of trade between African countries still remained unaddressed.

The Africa's total external debt is the most constraining in terms of sustainability. It reached the level of $ 322 billion in 1995, representing 70 % of the regional GDP and 250 % of exports. The capacity of these countries to service their debt has not improved despite efforts at scaling down their debt burden and reduction in the volume of arrears. In some of the highly indebted poor countries in SSA, scheduled debt service could absorb as much as 90% of the government revenue (excluding grants).

Indeed, Africa's rapid population growth in combination with poverty, low levels of education and health, weak infrastructure, poor economic policies, strains the capacity of families and nations to provide good living standards and adequate social services. During the period of poor economic performance, rapidly expanding population has exacerbated the problem of declining per capita income, health, education and food production.

D. Population and development

In spite of the steps taken to boost economic growth, African Governments have hardly been able to satisfy the increasing needs of their rapidly-growing population. Agriculture, education, employment and health are the sectors most directly affected by population growth. Indeed, attaining the demographic investment level required to satisfy needs in these sectors has been seriously limited by the current dismal economic climate and the low budgetary resources of member States.

In the agricultural sector, per capita food production has continuously declined in Sub-Saharan

Africa owing to a population growth rate higher than that of food production. Thus in the 1970s, while the population continued to increase at a rate of 2.7 per cent, food production was rising at only 1.3 per cent per annum. The food crisis deepened in the 1980s with a further reduction in food production while the population growth rate reached 2.8 per cent. The most affected areas were Southern Africa and the Sahel. Food deficits not only reduced productivity in all economic activities, but also led to malnutrition and a rise in morbidity and mortality, the most affected groups being mothers and children

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With regard to education, despite the significant progress made in terms of school enrolment especially at the primary level, results fallen well below expectations. Moreover, since they were unable to significantly expand their educational facilities, most African countries have resorted to such palliatives as increasing the student/teacher ratio or operating two different shifts to accommodate an ever-growing number of students.

In terms of employment, rapid population growth has inevitably led to an increase in the working-age population, dependant population, under-employment, unemployment and reduced workers' productivity. Unemployment ranks first among the problems of rapid population growth as the capacity of the African economies to generate new jobs and satisfy additional job demand by an increasing working-age population remains very limited.

In the health sector, the quality of service and infrastructural facilities is deteriorating as African countries lack the resources to cater for the growing needs of the population. Another factor aggravating public health in Africa is the concentration of health facilities, medical and para-medical staff in urban areas to the detriment of the rural areas where most of the people live.

Relative to environment, according to the Brundtland report, nowhere is the relationship between environmental degradation and development failures more apparent than in Sub-Saharan Africa. Urban migration, one of the consequences of failed rural development policies, has gone on uncontrolled, thus causing urban population growth rates much higher than the total population growth rates.

In terms of human settlements, the fact that the population growth aspect is not incorporated into development plans would seem to be the main cause of weak policies in this area. This has given rise to further environmental problems in most of the urban areas, including the emergence of shantytowns, increasing shortage of housing units, land speculation, mounting water and electricity supply shortages, clogged sewerage system, poor garbage collection and disposal, inadequate supply of social and health facilities for suburbia, worsening public hygiene, lack of transport and schools.

Rapid population growth has also largely contributed to the degradation of natural resources including forest, land and water, especially in Sub-Saharan Africa. It has equally increased requirements for firewood, farm land and pasture. Intensive limbering and land clearing, overcropping, increasing use of marginal land and over-grazing have become rampant and are believed

to be the causes of soil degradation and the disappearance of plant cover.

Although it is widely acknowledged that rapid population growth increases pressure on natural resources, care should be taken in considering population pressure as the direct cause of environmental problems. According to the recent report of the South Commission, population pressure is only one of the factors affecting the environment. Others include land tenure systems, agricultural development patterns, economic pressure from the North, the industrialization and growth imperatives, consumption patterns and rural exodus.

E. Synthesis of selected countries experiences in the demographic transition

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 recorded also significant fall in their birth rates which helped to check the potentially explosive growth in population that would have arisen from the sharp decline in mortality levels. However, of all these regions and other developing regions, the transition to low fertility began earlier in East Asia (in the 1960s in the North and in the early 1970s in the South) and went further.

The demographic transition that occurred in parts of South Asia in the past couple of years was a consequence of two major factors: an increase in the age at marriage and a control of the 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. 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.

Within Africa, the well known examples of countries experiencing sustained fertility and mortality declines are Botswana, Mauritius and Tunisia.

Mauritius stands out as a good example of an African country that has managed to control its population growth despite its multi-cultural context. The success of Mauritian population management has been largely attributed to full commitment of government both for logistic support and financial backing. The easy acceptance of family planning programmes by the population facilitated the fertility decline. It may be found in the high level of social development and basic education and empowerment of women. Fertility rate in Mauritius was already below replacement level in the late 1980s but the growth rate of the population was still above 1 per cent per year. Despite the lack of a clear formal population policy, the assumptions are to keep the population at the present level.

Botswana's high economic performance has combined with the government strong commitment towards spreading the social services to make it one of the few African countries with successful

population management programme. There are many various pragmatic and positive policies that Botswana has pursued during the last decade which have greatly contributed towards achieving demographic transition. These policies include the following: extending social benefits in health and education to a wide spectrum of population; investing in the key physical and institutional infrastructures to facilitate the delivery of these services; providing universal free education for primary level and closing the gender gap in accessing to education and employment; promoting systematic integrated health care system; adopting a population policy integrated into development planning at all levels; enjoying relative peace and stability and promotion of democratic principles.

In Tunisia, the steady decline in fertility observed during the last decades could be attributed to joint action to raise the marriage age and to the use of contraception which was considerably developed during those years. The success of the demographic transition in Tunisia could also be explained by the fact that the country's population policy is not only clear and well planned, but is also backed by relevant legislation and by political will at the biggest level.

Among the countries selected in the study and which are believed to be undergoing delayed demographic transition are Cameroon, Egypt, Madagascar, Mali and Nigeria. Comparisons of mortality and fertility levels and trends in these five countries lead us to conclude that the recorded facts correspond to Phase II of the demographic transition. This phase would be characterized by high fertility levels, high but declining mortality levels, high natural growth. The delayed transition to lower fertility in these countries as in most of African countries could be explained by cultural and economic factors such as the following: universal and early marriage, low level of female education, low status of women, lagging socio-economic changes that are yet to happen in most parts of these countries especially in rural areas, strong religious and socio-cultural reluctances to family planning.

F. Issues and challenges of the demographic transition in Africa and the way forward

As the case studies show, many African countries have, during the past two decades, taken the population policy option and progressively formulated and implemented population policies as integral parts of their development plans.

To a great extent, the demographic transition experience of Mauritius, Botswana and Tunisia bears some similarities with that of some Asian countries. The demographic transition that occurred in these countries was a consequence of two major factors: an increase in the age at marriage and a 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.

Despite the fact that countries like Mali, Nigeria, Cameroon, Madagascar had also formulated population policies and implemented family planning programmes, the case studies show that fertility rates are still higher than 5 children per woman in those countries. High demand for children due to

tradition and religion, high infant mortality, persistence of customs and ancestral beliefs favoring large families, early marriages, polygamy, the need for more children to assist in food and livestock production, are some of the major factors that have constrained fertility reduction in these countries. There are also many other reasons for the failure or poor performance of the population policies and family planning programmes implemented in Africa. These include: the poor motivation of the target populations; inadequate financial, material and human resources; formulation and implementation of a multitude of programmes; involvement of a large number of institutions in population activities and lack of effective co-ordination.

It is therefore evident that, despite the many population and development activities conducted by member States, the chances of accelerating the demographic transition in Africa can be maximized only if governments, in partnerships with NGOs, the private sector, regional and subregional organization, take vagaries action to slow down population growth and develop their human resources and accord priority to the following initiatives:

i) Preparation of realistic strategies that incorporate long- term national objectives derived from the global and regional Plan of action such as the DND, ICPD-PoA, Agenda 21, Habitat agenda, World Food Summit Plan of action, etc...;

ii) Ensure that population measures or factors that are integrated into national development plans are empirically derived from the proper population/development inter-relationships;

iii) Define more accurate family planning programme objectives by carrying out a realistic assessment of the requirements and demands for the target population;

iv) Provide consistent support to the family planning programme at the highest political level, provide more consistent financial support to the programme, ensure the legislation plays a catalytical role and give the programme a crucial legal framework;

v) Develop a meaningful information, education and communication (IEC) programme for the target populations including the socio-professional categories and specific risk groups (adolescents, school girls,...).

I. INTRODUCTION

A. Posing the problem

In the euphoria of the early years of independence and relatively easy times, the main concern of African countries was to give priority to nation building. Many of these countries had underestimated the human dimension of development and had no political will to pursue population policies integrated into development planning with a view to achieving greater control over population movements. To this lack of integrating population variables into socio-economic development planning can partly be ascribed the fact that a good number of objectives set in international strategies and development plans in recent decades have not been achieved. These objectives go by the name of universal free education, health for all, improvement of the status of women, improvement of living standards, checking the growth of unemployment, eradicating the spread of precarious housing etc.[1]

Fortunately, the African position since then has gradually evolved towards better awareness of the problems created by rapid population growth. Reviewing the optimistic theories defended at the Bucharest Conference in 1974, African Government unanimously recognized at Arusha when adopting the Kilimanjaro Plan of Action (KPA) in 1984 the pressures and constraints that rapid population growth imposes on development efforts and scarce available resources[2]. The recommendations of the KPA were revisited and developed eight years later 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 Africa and resolved to bring down the natural growth rate to 2.5 per cent by the year 2000 and 2.2 per cent by the 2010[3].

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 1000, child mortality rates to at least 70 per 1000, halve the 1990 maternal mortality rate and achieve a life expectancy at birth of at least 55 years. The required reduction in fertility was expected to result from achieving the objective of doubling contraception utilization rates 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 is the need for the African people to commit themselves to an evolutionary process characterized by a significant reduction of mortality and fertility. Such a demographic change (which first took in Europe and the new world before spreading recently to the development countries) has been termed a demographic transition. Nineteenth

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1 United Nations, ECA, 1996, Implementation of the Dakar/Ngor Declaration on Population, Family and Sustainable Development. (Working document of the First Conference of African Ministers Responsible for Sustainable Development and Environment, Addis Ababa, 4-7 March 1996.

2 United Nations, ECA, 1984 Kilimanjaro Plan of Action on African Population and Self-sustaining Development, Arusha, United Republic of Tanzania, 9-13 January 1984.

3 United Nations, ECA, 1992 Dakar/Ngor Declaration on Population, Family and Sustainable Development.

century Europe served as the laboratory for the design and development of the theory of demographic transition. It is an attempt to describe and to explain the passing of a population from near stationary growth with high birth and death rates towards a state of balance with low fertility and mortality rates and near-zero growth (J.C.Chesnays 1986)[4]. In the mean time, the population will undergo strong natural growth which will slow down only in the final phase. According to the theory of demographic transition, the shift towards low mortality and fertility rates occurs when there is a process of overall modernization having to do with industrialization, urbanization, individualization, monetarization, education and women earning wages. Such a global 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[5].

The theory of demographic transition is therefore virtually silent on migration even though the experience of Europe has demonstrated that external migration may have a regulating influence on demography[6]. Indeed, Europe which experienced remarkable population growth in the past century had the historic possibility of spilling over its surplus population through migration and transfer to the colonies.

When it comes to 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)[7]. 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 more nuanced in regard to fertility trends even though the relevant indicators may seem to show the pattern that fertility has not decreased significantly in most African countries (Locoh, 1995)[8]. Regarding migration, the available data confirmed, as we shall see further on, 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 would therefore be the result of a continuing decline in mortality and a fertility rate that has levelled off at high levels. In the absence of a significant decline of fertility (of the magnitude which occurred in Europe and North America and the like of which is occurring in Asia and Latin America) Africa

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4 Chesnays, J.C. 1995, La transition démographique: trente ans de bouleversements (1965-1995), Les Dossiers du CEPED, No. 34.

5 Peem, J.P., 1995, La dimension population dans les débats, théories et processus de développement depuis Les années 1950. Eléments pour une économie politique des rapports entre développement et population, D. Tabutin et al., Transitions et sociétés, Chaire Quetelet 1992.

6 Tabutin, D., 1995, Un demi-siècle de transitions démographiques dans les régions du Sud, Tabutin, D. et al., op. cit.

7 Hill A., 1989, La mortalité des enfants: niveau actuel et évolution depuis 1945, Pison G. et al., Mortalité et société en Afrique au Sud du Sahara, INED, Travaux et Documents, Cashier no. 124.

8 Locoh, T., 1995, Paupérisation et transitions démographiques en Afrique Sub-saharienne, D. Tabutin et al., op cit.

would appear, in demographic parlance, as the last region of the world to have embarked on a demographic transition. Given, however, the fact that the continent is experiencing a significant and continuing decline of mortality, in keeping with the description of the transition process, the issue of demographic change in Africa currently arises in terms of speeding up the transition through fertility reduction.

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. Moreover, issues of fertility control remain improperly understood in Africa and this may explain why population analysts continue to consider them from the stand-point of the demographic transition theory derived from the historical experience of other world regions which emphasize the influence of economic growth over the sustained decline of fertility. The more recent experience of demographic transitions in Africa do provide the opportunity to enrich the theory with cultural, sociological and anthropological approaches particularly when explaining the fertility transition.

B. Overview of Transition Patterns

The demographic transition mentioned above is first of all a classification of populations by the various combinations of fertility and mortality. The graphic representation of the model shows mortality and fertility curves both starting at a high level and meeting again but at a stable and low level. Since the facts have been well publicized following Princeton University's European Fertility Project and the study conducted by J. C. Chesnays, suffice it to describe below the main patterns of the graph[9].

One of the initial formulations of the demographic transition theory is credited to Blacker who, in 1947, defined five phases of population growth[10]:

(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 contracting population growth;

(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;

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9 Coale, A. m. and Watkins, S.C., 1986, The Decline in Fertility in Europe, Princeton, 1986; and Watkins, S. C.,, 1987, The Fertility Transition: Europe and the Third World Compared, Sociological Forum, 2 (r); and Cleland, J.et C. Wilson, 1987, Demand theories of the fertility transition: An iconoclastic view, Population Studies, 41 (1); and Chesnays, J.C., 1986, La transition démographique, Etapes, formes, implications économiques, Paris, Travaux et Documents, PUF-INED, Cahier No. 113

10 Blacker, C.P. 1947, Stages in 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 slowing down population growth.

These five phases were subsequently reduced the like of Warren Thompson (1948) to the following three which were defined as[11]:

(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 zero population growth.

Landry (1982) also came up with three stages of population growth (primitive, intermediate and contemporary) which more or less matched Thompson's three categories but were defined in terms of the relations between production and consumption patterns[12]. Like Thompson, he affirmed that the contemporary regime would need to be expanded to all population groups on earth with an even sharper decline in fertility and mortality.

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 S. Zamoun and D. Tabutin (1994) then seemed to best summarize and capture the model pattern of demographic transition[13]:

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

(ii) Beginning of the significant and steady decline of mortality while birth rates remain high with the result that natural growth is speeded up;

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11 Thompson W., 1948 Plenty of People.

12 Landry, A., 1982, La révolution démographique: Etudes et essais sur les problems de la population, Presses universitaires de France, Paris.

13 S. Zamoun and D. Tabutin 1994, Fiche pédagogique No. 2 La transition démographique dans L'histoire et dans le monde. Concept, débats et faits, in RIADEP, 1994, op. cit.

(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.

Since demographic changes cannot be avoided, lessons may be drawn from the historical experiences of western societies and the changes observed in other regions of the world. We may agree with Chesnays that various countries of the world are currently at different stages of demographic transition. Many western countries are either at the last stage or beyond since post-transitional fertility does not appear to guarantee the replacement of generations over time. All countries of the world have passed the second stage of declining mortality and virtually all of them the third stage of declining fertility[14].

All demographic transition models obviously emphasized the synchronization of respective mortality and fertility patterns. Placing 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[15]. The cause-effect of socio-economic development and fertility decline has also been the focus of many works published on demographic transition (Notestein, 1945; Thompson, 1946; Beaver, 1975)[16].

Many writers have criticized the ethnocentric and economistic nature of the theory of demographic transition, particularly those aspect which explain the decline of fertility. A. J. Coale and E. Hoover, 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 [17]. The example of some African countries also shows that fertility can decline independently of the degree of socio-economic development[18].

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[14] Chesnays, J.C. 1995, op. cit.

[15] Barbieri M., 1995, Déclin de la mortalité de la fécondité dans les régions, du Sud, Tabutin D. et al., op. cit.

[16] Beaver, J.S., 1975, Demographic Transition. Theory Reinterpreted, London, Lexington Books; and Notestein, F., 1945, Population: The long view, in Food for the World, edited by E. Schutz, Chicago, University of Chicago Press; and Thompson, W.S., 1929, Population, American Journal of Sociology, No. 34

[17] RIADEP, 1994, Questions de population pour L'Afrique, Dossiers pédagogiques du RIADEP, No.1.

[18] Dudley Kirk, 1996, Demographic Transition Theory, Population Studies, Volume 50 (3).

The analysis of demographic growth indicators relating to mortality and fertility worldwide also contains many examples where the fertility curve has evolved in parallel with the mortality curve (as in the case of 19th century France) where mortality decline was followed by a temporary increase in fertility (Latin America, Africa and a major part of Asia)[19] and where declining fertility has even preceded declining mortality (Costa Rica, Kenya, India : Tamil Nadu)[20]. The theory of demographic transition which quickly gained universal currency despite the limited geographical area to which it applied, has yet to be unanimously accepted in the scientific world.

C. Scope and Objectives of the Study

Since many 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 decision 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 demographic transition in Africa.

Most 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 demographic transition and to 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) place the required information at the disposal of the member States.

Although the study will attempt to cover the maximum number of countries, 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 gone beyond the stage of a sustainable reduction in fertility. This does not apply to the five other countries of Cameroon, Egypt, Madagascar, Mali and Nigeria which, like all other countries in the world are considered to have passed the stage of declining mortality. The analysis of the various experiences will provide useful lessons in terms of what the enabling and impeding factors are.

The study will consequently be built around the following chapters. After this introductory past, Chapter II will provide a concise description of population dynamics and socio-economic growth patterns in Africa and a brief review of the most widely known consequences of population and development problems. The selected experiences of demographic transition will be summarized in Chapter III and the lessons drawn in Chapter IV will serve as a basis for the formulation of such strategies and policies as would facilitate demographic transition in Africa. The conclusions and recommendations will be respectively drawn and formulated in the last chapter of the study. The detailed case studies are presented in Volume II and Volume III.

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[19] Dyson, T. and Murphy, M., 1985, The onset of Fertility transition, Population and Development Review, Vol. 11, No. 3.

[20] Lund University Press, 1994, Programme on Population and Development, PRO, and the authors, Understanding Reproductive Change, Kenya, Tamil Nadu, Punjab, Costa Rica.

II. OVERVIEW OF SOCIO-ECONOMIC GROWTH AND POPULATION

A. Population dynamics

1. Population and growth rates

The data presented in Table A1 and A2 of the Annex make for a comparative analysis of world population and growth rates and continental disparities from 1750 to 2050 (United Nations median assumption)[21]. World population was estimated at 5.9 billion in 1997. Of that, 12.9 per cent of the people (760 million) live in Africa. This percentage is only slightly higher than that of the European population (12.5 per cent). Asia, which has slightly more than three fifths of the world population appears to be the most densely populated continent on earth. For other regions, world population distribution is as follows: Latin America and the Caribbean (8.4 per cent); North America (5.2 per cent); and Oceania (0.5 per cent).

From 1750 to 1900, Africa recorded steady decline in the percentage of population relative to the world's from 13 per cent to 8 per cent. The mortality rates which remained high in Africa and Asia while the figures were already decreasing in Europe and North America explain the varying patterns observed in each case. The respective trends were reversed from 1900 when Europe and North America had already entered the transitional stage through fertility reduction while Africa and Asia had only reached the phase of transition through mortality reduction. Africa is currently home to the same percentage of the world population that it had in 1750 and, going by the estimates, happens to be the only region of the world where the percentage will grow from 13 per cent in 1997 to 21.8 per cent in 2050.

With regard to population growth, Africa, with an annual growth rate of about 2.7 per cent over the period 1995 to 2000, is not only recording the highest population growth rate in the world but is also the only continent where population grows annually in excess of 2 per cent. For other regions during the same period, the rates would vary from 0.1 per cent for Europe and 1.7 per cent for Latin America and the Caribbean. Furthermore, with a mean annual growth rate of 2.6 per cent between 1950 and 1994, Africa was also the only region of the world where the population growth rate did not decline. Every where else, the current population growth rate slowed down relative to the following average rates observed between 1950 and 1994.

The relatively high population growth rate of Africa was essentially due to the naturally high growth of fertility and mortality levels and patterns which will be commented on below. The main migratory flows will also be described even though, for reasons that we shall see later, it is generally acknowledged that such flows cannot be used to determine growth rates in Africa.

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[21] United Nations, DESIPA, Population Division, 1995, World Population Prospects: The 1994 Revision.

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 report crude birth rates (CBR number of births per year per thousand) at 24 per thousand worldwide and at 39 per thousand in Africa where the CBR achieves its highest level in the world (Table A3). The regional variations in birth rate described in Table A3 show a CBR of 29-30 per 1000 in North Africa and Southern Africa and a figure of 43-44 per thousand in Eastern, West and Central Africa.

Fertility levels measured in terms of Total Fertility Rate (TFRs) enable fertility rates to be more appropriately compared, since in contrast with CBRs, TFRs do not depend on the age and sex structure of the population under study[22]. The United Nations estimate TFR at the following average values for the period of 1995-2000 (Table A4): 2.97 worldwide, 1.5 for Europe, 2.06 for North America, 2.45 for Oceania and 2.85 for Asia and Latin America.

The value of 5.35 estimated for Africa contrasts sharply with the averages for the other continents and means that fertility levels in Africa far exceed the 2.2 required to renew the population. The estimate for West, Eastern and Central Africa established the fertility level at 6 children on average, which is a significantly higher level than the value indicated of slightly less than four children in North Africa and Southern Africa.

While fertility seems to be declining worldwide over the past 30 years, the tempo of the decline appears to have been slower in Africa. CBR would also seem to have considerably declined in other regions relative to the 1965 level while 20 years later in 1995, Africa was still recording a CBR value of about 45 per 1000 (Table A3). The significant decrease in birth rates which must have occurred in Africa since that time has had more to do with North Africa and Southern Africa. TFRs trends over the period 1980-1985 and 1995-2000 confirm that the decline did affect all regions of the world albeit to varying degree. The most significant decline was observed in Asia which must now be at an advanced stage of transition with regard to fertility. In Africa, the decline affected all subregions but was felt more in North and Southern Africa where TFR was reduced by about 1.82 children per women (Table A4).

Fertility levels therefore remain high in Eastern and Western Africa even though some countries in those subregions are entering the transitional phase of declining fertility. The literature shows that the relatively high levels of fertility still observed in Sub-Saharan Africa have more to do with the combination of cultural and socio-economic factors which determine the attitudes and behavior of people towards procreation. The high incidence of fertility at a young age would therefore be the result of early marriages while that observed at a late age would result from the fact that contraceptives

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22 SFI 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 her procreative life (from age 15 to 49).

are not being used in a widespread and effective manner[23].

The persistence of pockets of high incidences of sterility is a major problem in those African countries affected. Considering that one should normally expect three out of every hundred women in Sub-Saharan Africa to have no life birth, certain pockets of a high incidence of sterility have been located stretching from Cameroon to Gabon, the Congo, the Democratic Republic of Congo, the Sudan, the Central African Republic, Uganda and Tanzania[24]. And yet, wherever primary and even secondary infertility is widespread within the population, as still happens to be the case in certain areas of the "sterility belt" in Central Africa, it can have a major effect on fertility[25]. In this regard, O. Franc rightly states that if the issue of female infertility is not addressed soon, the fertility decline runs the risk of being, in the final analysis, delayed in Africa since the uncertainty of procreating will make the domestic and external pressures being exerted to reduce the number of children counterproductive [26].

3. Mortality Levels and Trends

The crude death rate (CDR or number of death per thousand in one year) currently estimated at 9 per thousand worldwide ranges from 7 per 1000 in Latin and the Caribbean to 13 per 1,000 in Africa (Table A3). The relatively high CDR in Africa, compared to that for other regions, is due to the low life expectancy at birth associated with the extremely young age structure of the population (63 per cent of Africans are less than 25 years old). Indeed, life expectancy at birth which ranges from 68 years in Asia to 80 years in North America works out at a mere 56 years in Africa.

Sub-regional variations of CDR within Africa set the highest levels of this indicator in Eastern, Central and West Africa where CDRs are far in excess of 10 per thousand. In contrast, North Africa and Southern Africa with CDRs in the region of 8 per 1000 are supposed to have achieved a mortality level that compares with that observed in other regions of the world and is close to levelling off.

It is interesting to note, however, that mortality is declining in all continents relative to the 1950-1955 level (except in Europe where a slight increase was even noted and in North America where mortality levels have remained remarkably stable at 9 per 1000). Here again, it is the age structure of the population which explains the trends observed since the European and North American populations are characterized by a relatively high percentage of elderly people (19 per cent of the people of Europe are aged 60 and above as compared to 5 per cent in Africa).

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[23] Schoenmaeckers R., 1988, Niveaux et tendances de la fécondité, in Tabutin, D., Population et Société en Afrique au sud du Sahara.

[24] ECA, Population Division, 1986 Population Dynamics in Africa, Addis Ababa.

[25] Frank, O., 1983, Infertility in Sub-Saharan Africa: Estimates and Implications, Population Development Review 13 No. 2.

[26] Frank, 1983, op. cit.

With regard to infant mortality, the situation is more alarming in Africa where it has become a real public health issue despite the significant decline which has occurred since 1950-1955. Africa therefore becomes the only region of the world where infant mortality rates (IMRs - the number of annual deaths occurring before the age of one for 1000 live births reported over the same year) currently estimated at 85 per thousand still remains much higher than the IMR which Europe experienced in 1950-1955 (Table A6). As to the likelihood of death occurring before the age of 5, this has also remained high in Africa where 144 children out of 1000 risk dying before the age of 5 years (1990-1995). The corresponding figures for other continents are : 83 per thousand in Asia; 56 per 1000 in Latin America and the Caribbean; 34 per 1000 in Oceania; 15 per 1000 in Europe and 10 per 1000 in North America.

Child mortality in Africa is more characterized by a critical treshhold of death occurring between the ages of one and five. Such child mortality or overkill is probably related to the fact that children are weaned when they begin to suffer the effects of malnutrition. Level of child mortality are therefore extremely high in Africa, compared to what they were in Europe more than 100 years ago for a comparable level of infant mortality. Existing studies suggest that infectious and parasitic diseases, respiratory ailments and malnutrition still remain the major causes of morbidity and mortality in Africa.

In spite of the paucity of data, it could be maintained that mortality rates have actually declined in Africa in recent decades and that progress has come slower for adults and children. All the estimates indicate that, on average, for the continent as a whole, mortality will continue to decline in coming years even though the short and long-term effects of AIDS have yet to be properly understood and periods of political and social instability might arrest the decline.

4. Migratory Movements

Migratory movements generally refer to internal as well as international migration. 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 other 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 will still be 4.8 per cent in Africa- with the time it would take for the urban population to double estimated at only 15 years. The thorny issues arising from overly rapid and inadequately controlled and organized urbanization will continue to exercise the minds of decision-makers and development planners.

From the demographic transition stand point, however, external or international migration needs to be taken into account in determining the growth rate of a population (when the net migration is

worked out between the number of immigrants and the number of emigrants). The types and patterns of external migration are relatively well known in Africa[27]. 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 Côte 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 subregion. 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 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 of 0.1 per 1000 estimated for the whole continent over the period 1990-1995. So 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 domestic natural population dynamic.

Then again, it is the massive movement of refugees (which are also part of international migration and which fail to be taken into account in determining the population growth rate) which constitute the type of collective population movements more substantial in Africa[28]. The problem of refugees began to arise in the 1960s when the total number was estimated in 1964 at 400,000. This figure rose to 50,000 in 1970, then to 3 million in 1979 before going on to peak at 5.4 million in the 1990s, accounting for one third of the refugees in the world. While countries of origin and destination of refugees have changed over the years but the major countries affected by refugee movements continue to be those in Central and Eastern Africa (particularly Ethiopia, Somalia, the Sudan, Malawi, Tanzania, Democratic Republic of Congo, Burundi, Rwanda) and more recently, in West Africa (Guinea, Cote d'Ivoire, 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 decertification, natural disasters, conflicts, the debt overhang and balance of payments difficulties[29].

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27 ECA, 1983, International migration: population trends and their implications for Africa, African Population Series No. 4. E/ECA/SER.A/2, Addis Ababa, 1983,; and Sergio Ricca, 1989, "International Migration in Africa: Legal and Administrative Aspects", Geneva, ILO.

28 Nation Unies, CEA, 1991, Guidelines on the Methods of Evaluating the Socio-Economic and Demographic Consequences of Refugees in African Countries, Addis Ababa.

29 Adepoju, A., 1988, Migration et urbanisation en Afrique: Problèmes et politiques, In UIESP, 1988, L'état de la démographie africaine.

B. Socio-economic Evolution

1. Social Context

a) Urbanization

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

Urban population as a percentage of total population continuously increased from 16% in 1970 to 23%, 29% and 31% in 1980, 1991 and 1995 in SSA representing growth rates of 5.8%, 5.8% and 5% respectively during these periods. In contrast, the urban population in Latin America and the Caribbean grew by only 3.7%, 2.9% and 2.8% followed by the urban population in East Asia and the Pacific with growth rates of 3.2%, 11.5% and 4.2% during the same periods. South Asia experienced growth rates of 4.1%, 3.9% and 3.4%. Data also show that urban population as a percentage of total population is largest in Latin America and the Caribbean region followed respectively by Europe and central Asia, East Asia and the Pacific, SSA and South Asia.

b) Education

In the last two decades, there was an improvement in education in the SSA subregion in terms of school enrolment. Between 1970 and 1980, female enrolment in primary education almost doubled, rising from 36% to 68%. Enrolment however, fell to 61% in 1990. Although it rose to 65% in 1993, it never attained the 1980 level. Male enrolment on the other hand, was very high (90%) in 1980 but this fell to 78 % in 1978. Female enrolment in secondary education was only 4% in 1970. However, enrolment experienced a continuous rise, increasing to 10%, 16% and 22% in 1980, 1990 and 1993 respectively while male enrolment increased from 22% in 1980 to 27% in 1993.

Compared to other developing regions of the world, male and female enrolment at both primary and secondary school levels in SSA during these periods were the lowest as shown by available data. According to the data, male and female enrolment in East Asia, South Asia and Latin America and Caribbean was two to three times higher than in SSA.

c) Adult Literacy

In 1995, nearly 60% of the female adults in SSA were illiterate. This figure is more than twice that for female adult illiteracy for East Asia (24%) and four times that for Latin America and the

Caribbean (14%). Only South Asia had a higher female adult illiteracy rate (nearly 70%) than SSA in 1995. On the other hand, one-third of male adults in SSA were illiterate in 1995 compared to only 9% in East Asia and the Pacific and 12% in Latin America and the Caribbean subregion.

SSA thus appears to have the second highest illiteracy rates in the world. Within SSA, Female adult illiteracy was highest in 1995 in Mozambique(77%), Ethiopia (75%), Burundi (78%), Sierra Leone (82%), Niger (93%), Burkina Faso (91%), Mali (77%), The Gambia (75%), Benin (74%), Mauritania (74%), Guinea (78%)%) and Senegal (77%). On the other hand, illiteracy among males is highest in Burkina Faso (71%), Niger (79%), Mali (61%) and Senegal (57%)[30]. Unfortunately, absence of time series data makes it impossible to assess progress achieved in the eradication of illiteracy in SSA during the last two decades.

d) Health

According to data on some indicators of health for only a few countries, almost the entire population of Mauritius, Egypt and Tunisia had access to health care in 1980 and 1993[31]. In Morocco and Nigeria, about two-thirds of the population had access to health care. Data on other important indicators of the health situation in African countries were also gathered by the UNCTAD[32]. Rwanda, Burkina Faso, Malawi, Niger, Tanzania, Ethiopia, Chad and the CAR had the largest population per physician. Between 1970 and 1990 the population per physician was reduced by almost 50% in Burkina Faso, the CAR, Chad, Mali and Niger. In Rwanda, Malawi and Tanzania, the population per physician instead increased by 22%, 72% and 10% respectively.

Also, between 1990 and 1994, over 50% of women in Djibouti, Sudan, Sao Tome and Principe, Liberia, Madagascar, Malawi, Tanzania and Zambia were attended to by trained personnel during child birth. In 21 of the 33 countries for which data is gathered by the UNCTAD, 50% or more of the children were immunized against DPT while in only 5 countries, 10 or fewer children were born with low birth weight.

e) Nutrition

The UNCTAD Report also shows that between 1980 and 1992 the nutritional level of the population did not improve much. In fact there was a marked deterioration in total food supply in 17 countries while there was a marginal improvement in 14 countries. Only in 5 of the countries is the total food supply in terms of the calories per capita per day up to the minimum recommended for an active, healthy life.

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30 World Bank, 1993, World Development Reports, Washington, DC.

31 World Bank, 1997, World Development Report 1997: The State in a Changing World; Selected Indicators.

32 UNCTAD, 1997, the Least developed Countries 1997 Report.

f) Sanitation

During the 14 year period from 1980 to 1994, SSA witnessed relatively slow progress in the provision of safe water and sanitation facilities. In 1980 for instance, at least 50% of the urban population had safe water in only 60% of the countries for which data are presented in the UNCTAD Report. However, whereas in 1980 more than 50% of the urban population had adequate sanitation in only 35% of the countries, the proportion of countries rose to 59% in 1994. In the rural areas, there was marked improvement in water supply with the proportion of countries for which at least 50% had safe water increasing from 8.6% in 1980 to 36% in 1994. Improvement in rural sanitation was not as marked as the improvement in water supply as the number of countries in which the same percent of population had access to adequate sanitation increased from 10% to 18% only.

g) Poverty

Data on some indicators of poverty show that SSA had a GDP per capita of only $490 in 1995 dollars[33]. Except for South Asia which had a GDP per capita of $350, SSA had the lowest per capita GDP in the World. Asia and the Pacific and latin America and the Caribbean regions registered GDPs of $800 and $3320 respectively. Infact, SSA experienced a negative growth of -1.1% in the GDP per capita between 1985 and 1995. African Countries with GDP per capita over $1000.00 in 1995 include Gabon ($3,490), Mauritius ($3,380), South Africa ($3,160), Botswana ($3,020), Namibia ($2,000), Tunisia ($1,820), Algeria ($1,600) and Morocco ($1,110). countries with the lowest per capita GDP include Mozambique ($80), Ethiopia ($100) Tanzania ($120), Burundi ($160) and Malawi ($170).

Between 1985 and 1995 out of the 36 countries for which data were available, in 18 countries the GDP per capita experienced negative growth rates. The gravity of the poverty situation is striking when one considers that out of 22 countries for which data are provided, more than 40% of the population lived on less than $1 a day in 10 countries between 1981 and 1995.

2. Economic indicators

a) Economic growth

Over the past decade, developing countries as a group, enjoyed per capita income growth of 3.5% a year. But among developing regions, East and South-East Asia remain far out in the front, while at the other end of the scale, is Sub-Saharan Africa, where per capita income has fallen since the early 1980s. Even within the region, the global growth in income has been very unequal and the inequality is increasing (See Table 1).

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[33] World Bank, Ibid.

Table 1. Gross Domestic Product (real)

Millions of US dollars, constant 1987 prices						
	1990	**1991**	**1992**	**1993**	**1994**	**1995**
Sub-Sahara Africa excl. South Africa	260,957 174,076	262,829 176,852	263,110 179,378	266,059 181,025	272,043 184,612	282,608 192,595
North Africa	169,513	171,199	175,004	175,177	180,074	184,582
ALL AFRICA	430,290	433,807	437,585	440,852	451,644	466,791

Source: World bank, 1997. African Development Indicators.

Although a positive recovery of the economic growth has been recorded in Africa in recent years, variations exist in country and subregional performances. Thus some countries have been performing in a spectacular way while in others, there has been stagnation or decline in their income for a decade or more. Most of these countries are among the LDCs and in Sub-Saharan Africa. Still several national economies in Africa are now growing faster than their populations.

South Africa Republic recorded the highest level of Gross Domestic Product (nominal) in 1996 with more than $ 125 billion, followed by Egypt with $ 60,472 billion (1995), Algeria with $ 41,435 billion and Morocco with $ 32,412 billion. In Sub-Saharan Africa, Nigeria comes first with $ 30,746 billions, then ex Zaire with $ 19,437 billion and Côte d'Ivoire and Kenya with $ 10,688 billion and $ 9,272 billion respectively.

Table 2. Output share and growth rate by subregion and economic grouping				
	Per capita GDP at 1990 $ US	**GDP percentage regional share**	**Growth rate percentage at 1990 prices**	
	1994	**1994**	**1990**	**1990-94**
Central Africa	438	8.7	0.1	-3.0
East Africa	190	6.4	2.8	1.6
North Africa	1249	40.8	2.6	2.0
Southern Africa	1371	27.4	0.2	0.4
West Africa	362	16.8	-3.4	3.5
Sub-Saharan Africa	**513**	**61.4**	**-0.6**	**0.9**
SSA without Nigeria and South Africa	363	30.8	-2.8	1.0
Nigeria and S. A.	368	5.9	0.7	2.6
Sahel zone	882	46.4	2.9	1.3
Oil exporters	538	53.6	-1.1	1.3
LDCs	229	16.0	1.1	-0.6
All Africa	**657**	**100.0**	**0.7**	**1.3**

Source: ECA Secretariat

The growth of GDP was related mostly to the good performance of the manufacturing sector and a modest rebound in the mining sector. Differences among individual African countries and groups of countries with the potential for rapid growth and socio-economic transformation have persisted but current indications are that the capacity of african societies and economies for real and sustained growth are being increasingly realized. (ECA, 1996).

Contrasting economic performances of developing countries in Sub-Saharan Africa and East Asia illustrate largely the government impact on development. Particularly good policies by themselves can improve results. Thus good policies such as those being pursued more recently by many countries in Latin America and Africa would increase growth in income per capita by around 1.4 per cent a year. Supported with strong institutions, the increase would even be much more important.

Table 3. GDP Growth

	Percent annual change					Average annual percentage growth	
	1991	1992	1993	1994	1995	85-89	90 MR
SUB SAHARA AFRICA . excl S. Africa . excl S. Africa & Nigeria	0.7 1.6 0.9	0.1 1.4 1.1	1.1 0.9 0.5	2.2 2.0 2.2	3.9 4.3 4.8	2.5 3.0 2.6	1.7 2.2 2.0
Nigeria	4.8	2.9	2.7	1.0	2.3	5.0	3.1
South Africa	-1.0	-2.6	1.5	2.8	3.1	1.6	0.8
North Africa Algeria Egypt Morocco Tunisia	1.0 -1.4 1.1 6.6 4.0	2.2 1.8 4.4 -3.6 7.7	0.1 -1.9 2.9 -1.1 1.9	2.8 -1.0 3.9 11.1 3.3	2.5 4.4 4.6 -6.9 2.4	1.5 1.0 4.1 4.7 2.4	1.7 -0.2 3.5 1.7 4.4
ALL AFRICA	**0.8**	**0.9**	**0.7**	**2.4**	**3.4**	**2.1**	**1.44**

Source: World Bank, 1997. African Development Indicators

b) Poor performance of agriculture

Due to a stagnation of overall agricultural output in the region and to a drastic deterioration in per capita agricultural production in some subregions, the value added in agriculture recorded an important decline in 1995, with a growth rate of 1,5 per cent compared to 4,2 per cent in 1994. Some countries in the North, Eastern and Southern subregions are affected by drought.

Food situation still remain a great concern in some parts of Africa. According to FAO, Africa currently accounts for 44 of the 88 countries classified as low-income food deficit countries. Food

production in the region grew at an average rate of 2.5 per cent over the period 1990-1995, less than population growth by half a percent point.

Table 4. Food Imports

Millions of US dollars (current prices)

	1991	1992	1993	1994	1995
SUB SAHARA AFRICA	4,134	4,875	4,435	5,241	5,516
. excl S. Africa	4,134	4,875	4,435	5,241	5,516
. excl S. Africa & Nigeria	3,409	3,994	3,580	4,370	4,474
Nigeria	725	880	855	872	1,042
South Africa	-	-	-	-	
North Africa					
. Algeria	4,623	5,428	5,358	5,522	7,427
. Egypt	1,894	2,127	2,092	2,206	2,520
. Morocco	1,8028	1,979	1,878	1,982	2,760
. Tunisia	591	892.9	972.0	799	1,332
	336	430	417	536	815
ALL AFRICA	**8,758**	**10,302**	**9,793**	**10,764**	**12,942**

Source: World Bank, 1997. African Development Indicators

Some countries still need food assistance. The whole region experienced a food deficit of 19.6 million mt in cereals in 1995 for which commercial food imports and food aid were needed but not readily available because of inefficient marketing and distribution systems at the domestic level and owing to a limited capacity to pay for imports.

c) External trade

There have been some improvements in Africa's external trade. Export earnings increased, resulting partly from modest increase in oil prices. On the other hand, the value of imports have also increased, particularly food imports.

Intra-African trade remained low as it has always been. This is due to the fact that many of the constraints that have hindered the development of trade between African countries still remained unaddressed.

Table 5. Terms of trade
Index 1987=100

	1991	1992	1993	1994	1995
SUB SAHARA AFRICA	93.1	92.7	89.0	90.4	89.2
. excl S. Africa	95.1	95.1	87.9	87.6	86.0
. excl S. Africa & Nigeria	93.9	93.9	88.0	90.9	90.5
Nigeria	101.9	96.3	89.3	79.4	79.5
South Africa	91.4	90.1	90.9	94.4	93.2
North Africa					
. Algeria	87.2	77.9	63.2	61.6	63.0
. Egypt	107.8	106.8	106.4	102.9	
. Morocco	99.5	103.9	102.0	107.0	
. Tunisia	96.5	95.4	94.6	96.8	
ALL AFRICA	**94.2**	**92.9**	**88.6**	**89.2**	**89.4**

Source: World Bank, 1997. African Development Indicators

d) Persistence of debt problems

The Africa's total external debt is the most constraining in terms of sustainability. It is estimated to reach the level of $ 322 billion in 1995, representing 70 % of the regional GDP and 250 % of exports.

The capacity of these countries to service their debt has not improved despite efforts at scaling down their debt burden and reduction in the volume of arrears. In some of the highly indebted poor countries in SSA, scheduled debt service could absorb as much as 90% of the government revenue (excluding grants).

C. Population and Development

1. Population and Food Security

Food security issues are a great concern to decision-makers in African countries especially those where gaining access to adequate food poses daily constraints for most of the population. A combination of several factors including poverty, drought, declining soil fertility, socio-political disturbances, social conflicts and civil wars affect adversely food security in African countries. But population and income growth remain major determinants of food supply and demands balances in the future (IFPRI, 1995). With an average growth rate of 1.7 per cent during the period of 1980-92, the agriculture sector could not keep up with population growth (World Bank, 1995) [34].

With a population growth of 2,7% (1990) Africa is one of the highest growth rates in the world and its current demographic situation is among the most difficult and complex of the developing world. The rapid population growth experienced by many developing countries and particularly Africa over the last few decades had in many ways some negative impacts on the society and its development.

An analysis of population projections shows that population size plays a major role in determining food needs in comparison to other demographic factors (FAO, 1996)[35] The continually increasing demand for food will imply a drastic acceleration of the agricultural productivity growth and especially food production, but not without further stress on the economic and environmental resources.

a) Food requirements and population growth

Per caput food consumption which is one of the major indicators for monitoring development in food security has been very low in most countries. And very few least developed countries meet even the barest minimum levels of food consumption necessary for ensuring that all of their populations have access to adequate nutrition (UNCTAD, 1997). Unlike the other continent as Asia, Latin America, Africa did not manage to improve its coverage rate of energy requirements by its food supplies, and some countries which consume mainly cassava, yams or taro, have experienced an acute decline in this area (FAO, 1996). The failure of proceeding initiatives undertaken by countries to combat famine and malnutrition both individually and collectively in the short, medium and long term reinforces the need to find answers to these questions.

As shown in table 6, although the world as a whole seem to have been able to meet aggregate food demand, there will be virtually no improvement in food security in many developing countries, particularly in Sub-saharan Africa. Per capita food availability in the developing countries as a whole will increase from 2,500 kilocalories per day in 1990 to 2,821 kilocalories per day in 2020 while in

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[34] World Bank, 1995, Towards Environmentally Sustainable development in Sub-Saharan Africa: A World Bank Agenda, Report No. 15111-AFR

[35] FAO, 1996, Food Requirements and Population Growth.

Sub-Saharan Africa, the projected DES (daily energetic supply) will be only 2,135 kilocalories in 2020. The situation in parts of Africa is of particular concern. It seems that the projected slow improvements in per capita food and calorie availability in Sub-Saharan Africa, even given relatively rapid production growth assumptions, will not be adequate to reduce malnutrition.

Table 6. Per capita food availability, 1990 and 2020: Various scenarios
Kilocalories per day

Region	1990	2020				
		Baseline	Low population growth 36/	Low investment/slow growth 37/	High investment/rapid growth 38/	Trade liberalization 39/
World	2,773	2,895	2,987	2,758	3,032	2,897
Asia	2,500	3,034	3,136	2,851	3,225	3,083
Latin America and the Caribbean	2,722	3,026	3,135	2,878	3,185	2,963
Sub-Saharan Africa	2,053	2,135	2,219	2,021	2,227	2,093
West Asia and North Africa	2,988	3,114	3,267	2,943	3,234	3,081

Source: IMPACT simulation results.

36 The low population growth scenario reflects the low-variant population growth projections of the United Nations.

37 The low-investment/slow-growth scenario simulates the combined effect of a 25 % reduction in nonagricultural income growth rates and reduced investment in agricultural public research and social services.

38 The high-investment/rapid-growth scenario simulates a 25 % increase in non agricultural income growth and higher investment in agricultural research and social services.

39 The trade liberalization scenario simulates full removal of tariffs and subsidies.

Some improvements in the food supply situation have been recorded after 1970s in several developing countries. However, other countries and many of them in Africa, failed to make progress and experienced outright reversals. Consequently their dependence on food imports, commercial as well as in terms of food aid, grew steadily.

b) Agriculture and population growth

Arguably, the most important challenge for now and in the future is to ensure that everyone, everywhere, has access to enough food, especially staple foods such as cereals or roots and tubers. In countries where the bulk of population still depend on agriculture, agricultural growth - and especially food production- has a significant impact on food security. Before the year 2020, demand on agriculture will be twice as high, with a reduced number of male labour in rural areas.

The main question is whether the agricultural performance and the natural resources available will be able to cope with this population growth in a sustainable manner for the next few years with the assumption that the population will continue to increase at 2.9 per cent per year so that its population in 2020 will be more than double the 1990 level of about 500 million (IFPRI, 1995). And if the current trends continue, the number of food insecure which is estimated at about 100 millions people in Sub-Saharan Africa (World Bank, 1994) will increase.

Based on the estimates/projections provided by IMPACT, about 158,351,000 metric tons of grains/cereals will be needed to feed the population in Sub-Saharan Africa (baseline scenario)[40/]. 83,5 per cent of this amount would be covered by domestic production which means that food imports, particularly cereals will be a significant burden on the African economies. Imports of cereals in the region are projected to increase at the rate of 3.5 per cent per year, from 9 million tons in 1990 to about 27 million tons in 2020 (IFPRI, 1995). The bulk of these imports will be wheat and rice mainly in east Sub-Saharan Africa, where the rice imports will grow at the rate of about 6.3 per cent per year between 1990 and 2020.

In most cases farmers respond generally to this challenge through use of available technology to grow and produce agricultural and food products within the constraints of the natural environment, socio-economic conditions and other available resources. In the situation where land is still available, population pressure often led to expansion of cultivated area mostly through shifting cultivation. While this is still the case in some countries of the region, this option is no more possible in others where higher population and less land available for expansion create the need for increased productivity of the already cultivated land through adoption of intensive agricultural production techniques.

Population pressure on land is thus very strong in Africa where population densities have increased by 66 per cent over a 20 year period. Cultivated land per capita varies considerably across the continent but is lower in Africa than, for example in China and declined to about 0.3 hectare in 1987 except for extreme cases, such as Kenya, which has only 0.1 hectare per capita (see Cleaver and Shreiber 1994).

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[40] IFPRI, 1995. Global Food projections to 2020:Implications for Investment.

Some success stories of agricultural intensification can be found in certain countries. For example India's cereal production has increased from 87 million tons in 1961 to 200 million tons in 1992, but on an arable land base that has remained almost constant (FAO, 1996). Some successful experiences could also be recorded in Africa where a capacity to invest existed and where macroeconomic policy reforms were supplemented by other government and producer strategies to create enabling environment for these investments.

2. Population and Environment

a) Overview of the Link between Population and Environment Degradation

It is generally accepted that population pressure is one of the root causes of poverty and natural resources degradation. This is particularly true for Africa where the rapid population growth over the last thirty years has exacerbated the deterioration of the environment. In fact, in Africa, most people live in rural areas and are poor. They derive their livelihood mainly from the exploitation of natural resources. In these areas, rapid population growth forces more intensive use of land, water, and thrusts people into more marginal, environmentally sensitive lands.

The impact of population intervenes along three main dimensions: its scale in relation to the resource base, its rate of growth, and its redistribution across resources through migration (Stephen Mink, 1993). This impact may be critical in some countries or regions within countries, but less important in others. Moreover, the three dimensions will not be equally important for the environment in different places and points in time. Thus, assessments of population's impact on the environment, and appropriateness of addressing such impact through direct population interventions, need to take local circumstances into account. Regardless of context, however, it is critically important to act upon the links between population dynamics and poverty.

In fact, poor people have high discount rate regarding the utilization of natural resources. It makes sense for them to cultivate fragile soils and to clear forest land for food production even though they may know that such practices are not sustainable. When survival is at stake, conservation of natural resources takes lesser importance.

Environmental degradation reinforces the links between poverty and fertility. Degradation of land resources worked by women reduces their productivity and the opportunity cost of their labour time. Degradation of tree, range and drinking water resources can increase the time cost of fuelwood gathering, livestock pasturing and water fetching, activities that children can undertake, and that consequently increase their value to parents. Since these links are potentially strongest in areas where fertility is already high, they tend not to increase fertility rates, but to make reductions in those rates harder to achieve. Contrastingly, where environmental degradation is caused by demograph pressure on land, there may be negative impact on fertility - - for example in cases where social custom encourages acquiring access to land before marriage, or where family separation increases to greater seasonal migration to supplement meagre farm income. Recent decline in fertility rate in some African countries (Botswana, Kenya and Zimbabwe in conjunction with ongoing environmental problems in rural areas, provide some evidence for this claim.

b) *The Issue of Carrying Capacity of Resources*

The impact of population size on the environment is often discussed in term of the carrying capacity of resources such as land, water and atmosphere. This concept holds that if nothing else changes, increasing population will ultimately put demands on resources that can no longer be met without damaging the ability of these resources to support human life. Precise potential limits to carrying capacity are hard to establish since social and economic factors may change in ways that can alter the carrying capacity of resources. Principal among these factors are trade, technology, consumptions preferences and levels of inequality. Sound policies regarding these factors may facilitate environmental adjustment to larger populations.

An FAO study (FAO, 1988) revealed that except for those African countries in the Sahel (drought prone countries) most of the countries in the region have a carrying capacity that far exceeds the size of their populations. This implies that population is not in many cases, the real cause of environmental degradation. It is rather the persistence of traditional methods of crop and livestock husbandry, and fuelwood harvesting that is the root cause of soil degradation, deforestation and desertification in Africa. Over the last thirty years, farming systems in Africa have not evolved enough to allow the continent to meets its growing food demand without damaging its natural resource base. Therefore, environmental problems facing African countries should mostly be linked to poverty and lack of technological innovation.

c) *Technology, Population and Environmental Degradation*

The view that population growth is an important factor in environmental degradation is held widely. But recent studies (John English, 1993) have shown that under conditions that did not foster social economic change, greater population pressure is accompanied by a greater likelihood of environmental degradation. In contrast, in areas where great technical and social changes have occurred, these areas have accommodated a markedly increased population while reducing the perceived level of environmental degradation. This implies that population growth does not necessarily lead to natural resource degradation. What it does automatically is to increase the pressure on land. As this ratio increases, societies have to make changes in their attitudes and innovate in order to meet their needs. At this stage, technology and trade become major factors for the environmental protection. Adoption of high yielding technology will increase production while reducing the expansion of area of cultivation. Trade will allow the flow of products from surplus to deficit areas and in so doing, will create jobs allowing some people to have access to food without clearing forests or cultivating marginal soils.

In conclusion, it is certain that population pressure constitute a threat for the environment because it leads to a more intensive exploitation of natural resources such as land, water and fuelwood. This in turn maintain or provoke the demand for larger family as more children are needed to undertake household tasks and as additional labour in production activities. This leads to a vicious circle whereby population increase leads to environmental degradation and reduction of agricultural productivity that in turn maintain high fertility rates. However, as mentioned above, population growth does not have to lead to environmental degradation and, therefore, actions directed only to the reduction of fertility are not enough to protect the environment. There is need to pay greater attention

to measures that increase agricultural and livestock productivity and the rational exploitation of other natural resources such as water and wood.

3. Population and Human Settlement

The African continent accounts for 22 percent of global land but contains only 12 percent of the world's total population. Thus, it still has among the lowest densities in the world with 21 inhabitants per square kilometre compared to the global average of 42 inhabitants or the 100 inhabitants and more for Europe and Asia (UNECA, 1996). Though Africa's population densities vary by country or region, the average densities range from 1 to 200 persons a square kilometre for most countries.

A World Bank study identifies two main kind of settlements in Africa. These are areas heavily settled and areas largely inhabited. The three main zones of heavy settlement are the Mediterranean coast and Nile line of North Africa, the coastal forest belt of West Africa and the Great Rift line of East Africa. The three largely inhabited areas are the Sahel belt, the rain forest basin of central Africa and the desert and semi-desert areas of the southwest. This spatial distribution is determined by many factors among which are the soil quality, the climate and other natural resources, diseases, culture, historical and current patterns of trade and commerce, and political power (World Bank, 1986). The same study notes that about one-fifth of Africa's people live in countries with difficult terrain and few resources or low rainfall, one-fourth live in oil-exporting countries, and the remainder are in countries with intermediate resource endowments.

The urbanization of Africa is leading to the emergence of mega-cities as more and more people converge to the few existing cities which are usually the economic or political (or both) motor of the country and consequently these mega-cities are dominating even more secondary cities and other upcountry settlements. The emergence of these mega-cities is a result of the old view that urban centres should be the pole for development. This view led countries to concentrate most of the available resources (infrastructure, education, health facilities, high wages, etc.) in these cities.

This dynamic move made the urban environment look more and more attractive to rural dwellers who saw their unimproved social and economic conditions contrasting sharply with the situation of those living in urban areas and thus, engendering a rural to urban move. The growth of these cities has been so rapid that it has surpassed the creation of planned areas and the provision of adequate infrastructure, housing and related services. Thus, squatter settlements and slums have sprawled all over these urban centres, putting their dwellers in hazardous conditions (poor maintenance of infrastructure, poor health and sanitation facilities, rising poverty and struggle for survival, high incidence of crime, etc.).

Although rural population is growing at a rate well below that of the urban population, there are still more people living in rural settlements than in urban ones. However, the gap is expected to narrow as the flow of migration continues. The urban-rural disparity result mainly from the imbalance in investment and income opportunities and is compounded by the failure to recognize the complementarity between urban areas and rural settlements. For example, only 30 percent of rural population has access to safe drinking water compared to 60 percent in urban areas and similarly, 18 percent of the population in rural areas has access to solid waste and sanitation compared to 55 percent

in urban areas.

Moreover, rural areas have for a long time been a major supplier of resources (human resources including brain-drain, food, raw materials, energy, etc.) to urban areas and this has led in turn to a continuous decline and impoverishment of rural settlements. This state of affairs happened because there has been a lack of appropriate spatial planning for guiding rural development (provision of basic social services, development of non-farm activities, easy access to markets and other services, etc.). Thus, in order to reverse this trend, there is a need to foster the good functioning of rural settlements. This can be done for example through a strengthening of rural market town and the reinforcement of rural service centres and facilities so that the beneficiary can have in a cost-effective manner access to inputs and other basic services (UNECA, 1996).

4. Gender and population

Gender is a cross cutting variable that needs to be addressed in a multi-sectoral way in order that a well balanced picture can be understood. The concept of gender emerged as a powerful tool for defining and analyzing the various role and needs that are socially prescribed to males and females. Specifically, the term gender has been referred to as the social differentiation(Moser 1988) which is shaped by ideological, historical, religious, ethnic, economic and political determinant. Gender differences begin at birth and continue to affect peoples' lives and relationship between men and women in the context of households, schools, communities and institutions. Thus Gender differences are universal though descriptions vary between cultures, time and geographic spaces. The need to address gender and population is to find out what socio-economic environment that would influence population variables i.e, mortality, fertility and migration which result from gender differences.

Previous sections have outlined the general trend of population growth in Sub-Saharan Africa which is very rapid. Full participation in development is often difficult to realize when inequalities between men and women exist. Roles for men and women that have been socially constructed sometimes create asymmetry in the division of labour and the various rewards that go with it. Thus it is better to examine the different roles, needs, opportunities and constraints that are due to gender differences if population issues and policies are to be properly understood. Gender roles that influence population relate to domestic organization of the society and systems of marriage, parenthood. Even though gender refers both to men and women, in reality, population issues affect men and women differently and they are perceived differently depending on the social circumstances. Women exhibit the highest levels of economic activities that have not been economically accounted for and are exposed to greater risks through pregnancies. Gender and population can be looked at from three angles, the social status within the house hold and the factors outside the family organization.

a) The Social status at the household

Within the household each member usually have designated roles. Women have traditionally borne the two roles of reproduction and production. Women's reproductive roles are those associated with activities carried out in the bearing and caring for the household and community including child care, food preparation, firewood and water collection. Whereas women's productive roles include all those tasks they do to contribute economically to the household and community including farming,

income generation activities. Most of the later activities have been statistically subsumed under domestic activities and have therefore not featured in the official economic records a factor that has tended to marginalize women economically.

The extreme demand put on women in carrying out the multi-faceted roles of reproduction and production is well documented. It has been estimated that in many African countries women might be working 12-13 hours a week more than men.[41/] The incidence of greater working hours have even increased recently among the poorest women who must make ends meet providing their families with nutritional requirement, water and fuel supply. Rapid rate of population increase combined with environmental degradation has led to scarcity in fuel wood supply aggravating the burden of women's home management activities. It means that women and children particularly girl children in rural areas have to spend more hours on household chores, walking greater distances in search of fuel wood or water. This has many implications in terms of the time taken away from other productive activities. With respect to children it is the valuable time from school activities that has to be sacrificed. Besides, the burden of trying to balance the multiplicity of tasks with rudimentary technologies, not only compromise women's health but the nutritional pattern of the household[42/].

There are many factors in a woman's social conditions that have an impact on population. There has been high correlation between low infant mortality and declines in fertility. Traditionally, many societies expect a woman to marry early and give birth to and rear many children. A woman's status is measured largely by her capacity to reproduce and maintain children. This has been one reason why overwhelming numbers of early marriages occur in Africa more than other regions[43/] . The reproductive role of mother including breast feeding and caring of infant play a significant role in that infant's survival. But the infant survival also depends on the health of the mother. The frequency of pregnancies have been found to bring great risks to both mother and child. Moreover, early pregnancies such as those experienced by teenage pregnancies can be risky to mothers both because of weak physical and body development. Young mothers are also more likely to maintain nutritionally insufficient diet themselves and the babies. Thus the incidence of infant mortality has been found to be high among teenager mothers[44/].

Allowing for some variations, in the context of many African societies the utility and cost of having children is felt differently between men and women because of their respective responsibilities and the resources available for them to carry out these responsibilities. There is however an opportunity cost of income foregone by mothers in course of child care responsibilities. So the overriding factor in fertility decision might be how far these costs of bearing additional child weigh against employment opportunities.

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41 Adepoju A. & Oppong C. Ed., Gender, Work, &Population in Sub-Saharan Africa.

42 Cleaver K.M. and Schreiber G.A, Reversing the Spiral.

43 Ibid, Adepoju & Oppong p.24.

44 Ibid, Adepoju & Oppong p. 29.

Many studies have shown that African children particularly in rural area have great economic value. They contribute the bulk of extra farm labour needed on the farm as well as carrying out household chores of child rearing, fuel wood and water collection. It has been urged that the multiple demands on women's time and the need to use children labour is one of the reasons for maintaining high fertility among rural women[45]. Women have particularly felt this pressure as society slowly move away from the traditional setting where the traditional division of farming chores have been eroded. Increased commercialization of agriculture, for instance, has in most cases increased women's responsibilities in farming. Additionally, rural to urban migration of mainly male and young men has left many rural women with increased chores. All these have implications on the health of a woman and her attitude towards fertility.

Fertility decisions is also influenced by the old age security which is felt in different way between men and women because of their different access to resources. it has been found that women particularly rural women who have less education and little financial security have high anticipation of financial support from their offsprings when they are in old age. The fact that women do not own and land has a bearing on her need to have more sons to ensure her claim over property after separation or widowhood.

Some cultural factors have been found to influence reproductive behaviour or perpetuate high fertility. It has been noted by the various writers[46] that traditional cultures influences reproductive behaviour as women are assured of getting support from a wider network of kinship beyond the nuclear family. Women in the traditional context get support from kinship arrangement in terms of child rearing and caring, food provision and production and generally more support. Kinship ties also provide a framework whereby people share problems and successes in life. However, there is a price to pay in terms of high fertility for maintaining this network of support. It is urged that this type of bonding affects fertility decisions of couples and women in particular are expected to fulfil the expectations of wider group to ensure that by producing sons they perpetuate the lineage. It is obvious that kinship ties reduce the cost of caring of children and a woman does not directly feel the burden. This would have implication on fertility attitudes.

b) Women's Access to education

In theory girls are given equal educational opportunities with boys but in practice there are socio-cultural prevent this to happen. There has been a tendency for social and cultural biased view against girls' education as opposed to boys. As a consequence girls in many countries do not have equal opportunities to schooling as boys. Although, this is gradually changing as campaign towards girls education have intensified in recent years, still the ratio of female to male literacy rates are in favour of males especially at the higher levels of learning. Women face higher degree of drop out at

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45 Ibid Cleaver K. M. p. 82.

46 See for instance Adepoju & Oppong p. 122 and Ingrid Palmer, Gender and Population in the adjustment of African economies, P. 63.

secondary levels[47/] due to teenage pregnancies or family obligations.

Education of future mothers has been found to be a crucial factor in population policy consideration for many understandable reasons. Education is a means of vision of option. It determines to what extent one will control her destiny and provide possibilities of choice beyond the restrictions imposed by the traditions and the those surrounding child bearing responsibilities. A girl's education, as a future mother, would have an impact on health and nutrition of family and choice of size by the virtue of women's responsibilities of child care, nutrition, hygiene, water. Women's education is thus important for child's survival. Education has an impact on fertility because women with better education are most likely to use family service facilities and also to marry at much later age. It has been recorded that contraceptive use is higher among the educated.

III. DEMOGRAPHIC TRANSITION: SYNTHESIS OF SELECTED COUNTRIES' EXPERIENCES

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 what it was that the first group of countries did that brought about sustained mortality and fertility declines in contrast to what the second group of countries did. From this comparison, it is hoped that some best practices can be identified for dissemination to other African member countries.

A. Countries experiencing sustained fertility decline

1. The Case of Asia and Latin America

a) Latin America, East and South Asia

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 recorded also significant fall in their birth rates which helped to check the potentially explosive growth in population that would have arisen from the sharp decline in mortality levels (see table 3.1). However, of all these regions and other developing regions, the transition to low fertility began earlier in East Asia (in the 1960s in the North and in the early 1970s in the South) and went farther (World Bank, 1993).

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47 See a note ratios on this in E/ECA/CM.21/8, Human Development in Africa-1995 Report, p.40.

Table 7. The Demographic Transition in East Asia, South Asia and Latin America

Country	*Change in crude birth rate*	*Change in crude death rates*	*Average annual growth of population*	
	1965-80	*1965-80*	*1960-70*	*1980-90*
East Asia				
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
Latin America				
Brazil				
Mexico	- 31			
Peru	- 40	- 36	2.8	2.2
Venezuela	- 33	- 55	3.3	2.0
	- 31	- 50	2.9	2.3
South Asia		- 38	3.8	2.7
Bangladesh				
India	- 27			
Nepal	- 33	- 33	2.5	2.3
Pakistan	- 13	- 45	2.3	2.1
	- 13	- 42	1.9	2.6
		- 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 (see table 7 above). The decline recorded in most countries was between 30-40 percent. On the opposite, there was a substantial variation in the decline of the crude birth rate. The decline was around 10-30 percent in South-Asia and 30-40 percent in Latin America. The sharpest decline was recorded in East Asia: 40-50 percent.

As a result, 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 percent a year in 1960-70 to 1.1 percent in 1980-90; in Hong Kong, from 2.5 to 1.4 percent; and in Thailand, from 3.1 to 1.8 percent. In Latin America, fertility declines were also sufficient to reduce population growth rates, though generally not to 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 (World Bank, 1993).

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.

b) Sri Lanka

Since these experiences will be used to derive useful lessons and/or conclusions that might be of interest to Africa, it seems better to analyze the demographic transition in South Asia than East Asia as the conditions in the former (high population growth rates, low economic growth and low per capita income, industrialization and urbanization), at least at the time of the demographic transition, were nearly similar to those prevailing in most of Africa today.

Among the most notorious cases is the demographic transition in Sri Lanka. Caldwell (1996) asserts that Sri Lanka has almost completed the demographic transition with low mortality and fertility rates approaching replacement levels. This is in contrast with most of other parts of South Asia where mortality and especially fertility rates remain high. The explanation lies in the changes that occurred in the socio-economic system which has reduced the centrality of the family in wider social and economic relations, and placed a greater premium on an individual's own ability and attribute.

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 country 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 percent and between the 1950s and the 1990s it fell by more than 75 percent to reach a rate of less than 20 per thousand. Maternal mortality fell from 16.5 per thousand in 1945 to 0.5 per thousand in 1985 which is a drop of more than 95 percent. 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 level in the present day. This fall in fertility has been attributed to changing marriage patterns and a strong family planning program.

In present days, the Sri Lankan family is essentially a nuclear family composed only by 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 Lankans' women have a strong say on health and fertility behaviours by contrast with other developing regions where women are marginalized. This changing socio-economic system which reduced the centrality of the family in wider economic relations and placed a premium on an individual's own abilities and attributes pushed up also the female age at marriage. Thus, it rose by

six years in one century, 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. However, more recently the continued fertility decline has been attributed mostly to declines in marital fertility as a result of a well funded and implemented family planning program (Caldwell, 1996).

c) Indian village of Kerala

In the Indian village of Kerala, the fertility declined substantially during the 1970s and has continued ever since until it reached replacement levels in the 1990s. The main determinants of this fertility decline are 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. Thus, smaller families were becoming more and more advantageous compared to larger families (Sushama, 1996).

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 to 21.8 for 1975-80 while the village crude birth rate stood at 18.2 per thousand. In the same period the death rate 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 and in general resulted in a steeper fall in fertility rates than the previous contributing factor (Sushama, 1996).

Sushama (1996) notes also that this delayed marriage age and the deliberate attempt to limit fertility was a response to the overall societal changes but mainly to the perceived economic cost of bearing and rearing children. The general feeling was that children cost more in present times because of higher living costs and the much higher expenses on children's education and medical expenses. Other major issues were the decreasing opportunities in agriculture and the inconvenience caused to women by childbirth.

What are the lessons to be learnt? The demographic transition that occurred in parts of South Asia in the past couple of years was a consequence of two major factors: an increase in the age at marriage and a control of the 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. 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.

2. The case of Africa

Within Africa, the well known examples of countries experiencing sustained fertility and mortality declines are Botswana, Mauritius and Tunisia. Among the countries selected which are believed to be undergoing delayed demographic transition are Cameroon, Egypt, Madagascar, Mali and Nigeria. These eight countries were studied and the following sections present the summaries of the findings. The detailed case studies are presented in two Volumes: Volume II covering Botswana, Egypt, Mauritius and Nigeria and Volume III covering Cameroon, Madagascar, Mali and Tunisia. The reader who is interested in greater details regarding the demographic transition in these countries can consult these case studies.

a) Mauritius

i) 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 rate 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 rate continued to decline over the past two decades to just over 2 births per woman in 1991. It seems however that this decline has stopped in the more recent period. There has been also a very moderate increase in the age at marriage over the past years. Available information indicates that the age at marriage is estimated to about 24- 25 years (ECA mission. 1997).

Overall mortality rate has been improving as result of the rapid increase in standards of nutrition, health care and other social services. The crude death rate declined from 9.3 per thousand population in 1962 to 6.6 in 1991. The infant mortality rate (IMR) reached 19.7 in 1995 which partly reflected the poor health status of mothers. The under-five mortality rate was still considered high for a country which achieved a significant level of human development. Life expectancy at birth improved considerably over the last two decades. It is as high as 72 years for female and 72 years for male, only a few years less than in most developed countries.

ii) Factors affecting fertility transition in Mauritius

Education, particularly of women, is certainly one of the most important factors that affect fertility behaviours and contributed to controlling population growth in Mauritius. About 80 per cent of population are educated. 75 per cent of women in Mauritius are literate. Education in Mauritius through University is free with a 9 year primary education being compulsory. Generally better education leads to lower fertility.

Employment share credit with education to have contributes to higher living standards of population in Mauritius where the vast majority of people have been benefited of full 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 is as high as 44 per cent and it has been on the rise over the years. Increased labour participation , especially at the women's side affected the traditional child rearing methods and led the couples to

review the size of their family.

Considerable efforts have also been 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 provided by Government include social security for the vulnerable groups, 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 ageing of 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 have been put in place.

iii) Population Policies and Strategies

Mauritius is one of the few countries that have succeeded in managing its population growth. Demographic transition in Mauritius has started about 34 years ago as opposed to other classical cases of industrialised countries such as France. The success of 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.

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 be involved in the provision of services and people were left free to take the own decision concerning the number of children they wish to have. The first family planning clinic was opened in 1957 by the Mauritius Family Planning Association (MPA). Thereafter a private organization, Action familial (AF) was formed with the objectives of promoting and teaching natural family planning methods. Then family planning became the main tools used to tackling demographic problems.

To day, 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. The two-child family seem to be the norm in Mauritius. Fertility rate in Mauritius was already below replacement level in the late 1980s but the growth rate of the population was still above 1 per cent per year. Despite the lack of a clear formal population policy, the assumptions are to keep the population at the present level.

iv) Perspectives of the demographic transition

Mauritius is at a critical juncture in its development. It has reached the stage of temporary success 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 importing from Asian countries and others. The Government is also conscious of the problem that the ageing population is going to raise in the long turn.

b) Botswana

Botswana's high economic performance has combined with the government strong commitment

towards spreading the social services to make it one of the few AfricAn countries with successful population management programme. Botswana's population is relatively small amounting to 1.3 million people and growing at the rate of 3.5 percent per annum. This is much lower than its GDP growth rate of 7.1 percent.

Botswana's demographic profile has all the signs of a country undergoing a demographic transition. Infant mortality rates have been halved between 1971 to 1991 from 97.1 to 48.0 per 1,000 live births and currently to 42 per 1,000 which is far below the Sub-Saharan average of 92 per 1,000. Similarly, childhood mortality is down to 32.4 per 1,000. Life expectancy rate has risen both for urban and rural population to 67.7 years and 62.3 years respectively in 1991. The recent upsurge in HIV/AIDS pandemic is unfortunately threatening to raise the population morbidity especially among the youth. AIDS infected population was estimated to be 180,000 people in 1995 and the figure is still rising which has prompted some intensive campaign to reduce the scale of increase.

Fertility rates have been declining from 6.5 in 1971 to 5.2 in 1991 while contraception prevalence rate is relatively high at 32 percent. 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.

The country is generally sparsely populated due to the sprawling arid and semi arid conditions including the existence of a huge mass of Karahali desert. Densities can range as low as 0.2-0.8 persons per square kilometre to as high as 87 persons per square kilometres in the most densely populated areas. Urban population has been growing very fast at the rate of 18.2 percent in 1991 reaching a total of 45.7 percent of total population.

There are many various pragmatic and positive policies that Botswana has pursued during the last decade 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 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;

ii) Providing universal free education for primary level and closing the gender gap in accessing to education and employment;

iii) Promoting systematic integrated health care system that incorporates preventative care, primary health care, family planning services including mother and child health;

iv) The government has recently adopted 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.

v) Enjoying relative peace and stability and promotion of democratic principles.

Botswana has now a greater challenge of sustaining its past successful policies in the face of growing population that follows the demographic transition. Stemming poverty would most certainly first on the list particularly in the face of reduced opportunities for formal employment. The country's economy has to diversify more and this is made more difficult by the fact that agricultural sector that would ordinarily offer opportunities for many has limitations due to recurrent drought.

c) Tunisia

i) Population dynamics and determinants

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

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

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%. Tunisia has therefore experienced a substantial decline of fertility between 1960 and 1990 which was accompanied by a decline of the mortality rates.

ii) Determinants of population growth

The first explanation is the higher observed age at first marriage. Among women aged 45-49 years, 59% were married at the age of 19 while among the women aged 20-24, 16% only were married at that same age. The median age at first marriage rose from 20 years for women of the age group 35-39, to 21.2 for those in the age group 30-34 and to 23.2 for those in the age group 25-29. This rise of the age at first marriage is the consequence of the changing socioeconomic conditions which occurred in the last few decades (higher revenues, rapid urbanization, higher level of education, etc.).

The second determinant is the implementation of a well-designed family planning and health programme. Although the political drive to control fertility started at the 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 is implemented through a network of clinics, health centres and mobile stations that covers the whole country. The result is that 99% of tunisian women have a general knowledge of contraception and the contraceptive prevalence rate rose from around 30% in 1978 to more that 60% in the 1990s.

The third determinant is the general improvement of the living standard. The per capita Gross Domestic Product (GDP) increased by more than 700% in a span of 30 years and life expectancy at

birth went from an average of 47 years to 70 years. Moreover, the statistics show that in general 90% of the tunisians have access to health care, 99 % have access to clean water and 96% have sanitary installations. The illiteracy rate has dropped to 30% while the urbanization rate has risen to 60%.

iii) Population policies and strategies

The family planning programme was adopted in the 1960s and involved public services, Non Governmental-Organizations and religious authorities. To support it, the tunisian authorities enacted several laws that have had a beneficial effect on fertility levels. These include among others the adoption of the "Statut Personnel" which protects women, instores 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 a permanent role of information and education and to make available all the needed services and products for family planning.

B. Countries undergoing delayed demographic transition

a) Cameroon

i) Population size and growth

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% in 1950 to 2.8% in 1987, and has since stabilized at that record level.

The population is unequally distributed on the national territory. The high migratory movements between rural areas and towards fertile lands explain the concentration of 3/4 of the total population on only 1/3 of the national territory, leading consequently to serious environmental problems.

Cameroon is a predominantly agricultural country, since agriculture employs more than 2/3 of the population and contributes to a quarter of GDP. However, since 1985, the country has been heavily stricken by an economic crisis whose effect is still felt in all socioeconomic sectors especially in the most vulnerable groups.

ii) Determinants of population growth

The population dynamic of Cameroon is characterized by stable fertility rates and a slight mortality decline which can lead to a rise of the natural growth rate in the long run, in the absence of a significant international migration. Cameroon is thus on the second stage of the demographic transition. The relatively high mortality level is essentially a result of the under-developed

socioeconomic conditions while the high level of fertility is a consequence of the socio-cultural factors.

Education and urbanization of women are the main determinants of fertility levels and trends with high level of education and urbanization being associated with lower TFR. Early childbearing, short birth intervals, breast-feeding practices have been found also to be major explanatory factors of the high levels of fertility. With regard to mortality, other socioeconomic and cultural factors such as female illiteracy, the poor quality of drinking water, the hardship of residing in rural areas and some particular districts are major determinants of the high mortality rates.

iii) Population and development policies and strategies

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

Public authorities, with the help of international Organisations and in collaboration with Non governmental organizations, have tried to put in place a few programmes aimed at altering the negative socioeconomic impact of the rapid population growth.

Thus, since the end of the 6th economic Plan in 1991, the Government have prioritized the formulation and implementation of a macroeconomic policy aimed at the reduction of the deficit in the terms of trade and at the reduction of public spending, public workers and the service to debt ratio.

A National Population Commission has been set up in March 1985 with the objective of assisting the Government in the definition, orientation and harmonization of a National Population policy. A Population Planning Unit responsible for the integration of demographic factors in development planning has been created also. The National Population Policy (NPP) has been formally adopted in 1992.

In the implementation of the NPP, the Government has conducted a large family survey that has allowed the identification of the major factors of the demographic behaviour, so that the Government can act on these factors through a programme of education and responsible parenthood. Following the Beijin Conference, the Government has set up also 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. The Government has also formulated a national policy for the environmental protection and sustainable exploitation of natural resources.

iv) Perspectives of the demographic transition

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

The population projections elaborated under three different hypothesis of mortality and fertility show that the population of Cameroon will more than double by the year 2020 (in less than 25 years) in all three hypothesis. The resulting age structure show that supplemental efforts will be required since the population under 15 will represent between 35 and 45% of the total population.

b) Egypt

i) Population dynamics

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. 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 are function of the 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 female with at least a secondary education (3.0 births) (EDHS, 1995).

The crude death rate (CDR) declined after World War II to reach 17 deaths per thousand populations in 1960. Much of this decline was owed 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 (CAPMAS, 1995). Thus, the natural growth rate stood at 2.2 percent in 1994 compared to 2.9 percent in 1986.

ii) Determinants of population growth

As found in the Egyptian Demographic and Health Survey (EDHS) of 1995, there are several reasons to delayed demographic transition in Egypt. The first is the age at marriage which is still low compared to countries undergoing a demographic transition. 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 age 25 and 49.

For example, in Tunisia, the median age at marriage for women ages 25-29 is 23.2 years old while in Egypt it is three years lower (20.2 years). Moreover, within Egypt there are large disparities. Thus, in Upper Egypt which is home to 35% of the population, the median age at first marriage for women 25-49 is still at only 17.8 years and for 80 percent of these women in Upper Egypt who live in rural areas the median age at first marriage is only 16.9 years. In rural Lower Egypt which houses a little more than 50% of the population the age at marriage is still at 18.6 years only.

The second reason is the teenage childbearing which is still high. The EDHS (1995) report that overall, one in 10 teenagers has given birth or is pregnant with her first child. The highest level is

reached with teenagers in rural Upper Egypt (18 percent) while the lowest is found in urban areas (7 percent).

The third explanation 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 this short births interval 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 is related to the trends in family planning use and contraceptive discontinuation. The contraceptive prevalence in Egypt is still at only 48 percent though it represents a substantial increase from the 24 percent of 1980. Moreover, the 1995 data of the EDHS indicates also that many users discontinue the use of contraception within 12 months of starting it. This discontinuation was found to be usually a result of side effects or health concerns.

iii) Population Policies and strategies

The concerns about high population growth started early in Egypt. The National Charter adopted in the early 1950s indicates that high population growth constitutes 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. This 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 and current 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 literacy. In the 1990s, following the International Conference on Population and Development (ICPD), a modified population strategy was developed. This new strategy placed a greater emphasis on providing reproductive health services and supporting non-governmental organizations (NGO) in the development of local communities.

iv) 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. All these efforts invested in the Egyptian family planning program have not been vain.

Contraceptive use in Egypt has doubled in 15 years, from 24 percent in 1980 to 48 percent in 1995. Moreover, knowledge of family planning methods and sources is universal among women in Egypt. Broadcasts of information about family planning have wide coverage to the point that more than 80% of ever-married women have heard a family planning message. Family planning use has also a

broad support. Thus, 90% of married women and 80% of married men approve the use of contraceptive methods while 70% of currently married women have used a family planning method at some time. However, the country as a whole still has a long way to go in order to achieve a successful demographic transition as will be seen below.

c) Madagascar

i) Population dynamics

The population of Madagascar was estimated at 12.2 million by the 1993 General Census of Population with a growth rate of 2,7 per cent between 1975 and 1993. It has a global density of about 21 inhabitants per square kilometres but with great disparities between regions. More than three quarters of population live in rural areas. The population is characterised by an important number of children and youth and a low proportion of elderly.

The level of fertility is still high in Madagascar. The General Census on Population and habitat of 1993 estimates the total fertility rate at 5,9 children per woman. The average age of mothers at their child birth is 28,7 years and the net reproduction rate is 2,2 girls per woman.

Mortality rate is also high in Madagascar. The 1993 Census reveals that 93 children out of 1000 die before age one and 69 out of 1000 do not reach age five. However the fertility and mortality rates are declining, although rather slowly. from 1975 to 1993, life expectancy increased from 45 to 52 years and the fertility rate declined from more than 6 to 5,9 children per woman which indicates a rather delayed demographic transition.

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 form Europe (40,7 %), Indian Ocean islands (38,5%) and Asia (15,0%).

ii) Determinants of demographic behaviour

The level of education and the woman's participation to economic life are determinants to the fertility behaviours. However, education standards are low and enrolment rates are falling rapidly. As shown by the 1993 census, 54 per cent of malagasy population are illiterate, women being more affected than men and particularly the 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 economically active population is engaged in this sector. The participation ratio of women in urban areas has increased between 1975 and 1993 (34 % against 39%). This indicates the increasing contribution of women in economic development.

iii) Population Policies and Strategies

Through its population policy formulated in 1990, Madagascar has committed itself to improve the living conditions of all categories of population. The objectives of the National Policy on Population for Economic Development include :

i) To overcome the economic, social and political constraints hindering the capacity of the population to ensure its role as agent to and beneficiary of development;

ii) To reduce the levels of mortality particularly that of mother and children;

iii) To reduce the fertility level from 6 to 4 children per woman by the year 2000.

The global strategy to implement the population policy consists in setting up a coordinated programme of family planning with the understanding that every individual is free to choose the number of children suitable to his conditions. Major projects in the field of family planning financed by UNFPA include the promotion of Norplant contraceptive method in Madagascar; assistance to the Population and development Unit at the Ministry of Planning; IEC in support to the project on reproductive health; demographic and health survey, support to the activities on reproductive health/family planning of the health Department of the Lutherian Church (SALFA).

The private sector is playing a major role in the distribution and sale of the various modern contraceptive methods. However, about 38,8 per cent of the contraceptive have been distributed through the public sector. Lack of information is one of the reason of not using contraceptives.

Increasing the contraceptive prevalence rate from 3,5 per cent to 7 per cent in 1995 and to 40 per cent by the year 2000 is one of the main objectives of the Integrated Programme on Maternal and Child Health/Family Planning.

d) Mali

i) Population characteristics and dynamics

The population of Mali went from 6.397 million to 7.696 million between 1976 and 1987, which corresponds to an average annual growth of 1.81 per cent while the natural growth rate was estimated at 3.7 per cent. This is an indication that there was a high emigration in the above period. Mali is effectively a country of net migration. This situation is a result of the climatic, ecologic and economic conditions which are particularly unconducive and thus push Malians to emigrate in the search of better opportunities. The report of the 1981-1985 economic plan asserts that the revenues generated by Malians living abroad amount to 3 % of GDP.

The population of Mali was estimated at 8.9 million in 1995 and is forecasted to reach 11.9 million in the year 2000. The child mortality rate is 249 p. 1000 which is an indicator of the poor health care situation. Life expectancy is around 47 years. The population structure is characterized

by a high proportion of young people as a result of the high fertility which is estimated at 6.7 children per woman. The male population represents 49 % and the female 51%. Women in their childbearing age (15 to 49 years) represent 21% of the whole population.

The age at first marriage is very low since the median age is only 16.2 years in urban areas and 15.8 years in rural areas. The level of education have a significant impact on the age at first marriage since it increases with the level of education. Thus women without education get married at 15.7 years, women with a primary education at 16.3 years and women with a secondary education at 19.2 years. Polygamous unions are very common: at the national level 45 % of married women live in a polygamous union with the rate being 33 % in urban areas and 48% in rural areas.

With regards to fertility trends, demographic surveys in Mali among which the national population census of 1987, show that fertility levels have remained stable and even increased slightly between 1976 and 1987. The general and child mortality rates were respectively 29 and 250 p. 1000 in the 1960s. These rates have fallen significantly thanks to progress in health care. Thus the last census show that infant mortality was around 76.26 p. 1000 in 1987. There was also an improvement in the life expectancy which went from 35 years in 1960 to 55 years 1987.

ii) Determinants of population growth

In Mali, the demographic 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: 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 required for farming 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 socioeconomic 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 demographic variables in development planning until recently.

iii) Population policies and strategies

The rapid population growth and the high demographic pressure on natural resources have lead the Government to formulate a national population policy (NPP) for which the objective is to ensure the sustainable human development in the respect of local traditions and customs.

The NPP requires an individual responsibility and the involvement of everybody. The ultimate goal of this policy is to improve the living standards through a better education, nutrition, health, housing and employment opportunities. The policy has 10 objectives and their implementation would improve substantially the living standards and quality of life of the malian people.

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.). The first action programme 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.

e) Nigeria

i) Population dynamics and its socio-economic impact

Nigeria's population is estimated to have been increasing at 2.8% 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 1000 in 1991 to 39 and 12 per 1000 respectively in 1997; during the same period, the infant mortality rate has fallen from 85 to 70 per 1000, the maternal mortality rate from 15 to 10 per 1000 while the life expectancy has risen from 54 to 58 years. The total fertility rate (TFR) is still high but seem to have stabilized at 5 in 1995-1997 from 6 in 1991. Rates are still over 6.0 in many parts of the country.

At the national level, the sex distribution is fairly balanced and males out number females by only 100 men to 98.7 women. The age groups 0-14, 15-64 and 65+ comprised 48%, 47.7% and 4.3% respectively of the total population. Also there is a high percentage of the dependency age group (0-14) and a fairly critical mass of adolescents (22%).

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% 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% in 1996[48/] . 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.

ii) Factors Affecting Fertility levels

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. There is also a large proportion of currently married women whose demand for family planning has not been met. The Contraceptive Prevalent Rate (CPR) for instance, is only 20%.

Despite the strides made in health care, preventive and curative health services have not yet reached many women and children which explains why the infant mortality and the crude death rates are still relatively high.

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[48] World Development Report 1997, The State in a Changing World: Selected World Indicators.

iii) Population Policies and Strategies

The reduction in fertility and mortality rates may be explained by the effective implementation of the National Policy on Population[49]. The policy is based on the right of every couple and individual to decide fully on the number and spacing of their children and the right to information, 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 included extending the coverage of family planning service to 50% of women of childbearing age by 1995 and 80% 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 which is promotive, 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.

iv) Perspectives of the Demographic Transition

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

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.

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[49] Federal Office of Statistics, 1992, Nigeria Demographic and Health Survey 1990, Demographic and Health Surveys IRD/Macro International, Inc.

IV. ISSUES AND CHALLENGES OF THE DEMOGRAPHIC TRANSITION IN AFRICA AND THE WAY FORWARD

To put the discussion in its proper perspective, it is important to recall, albeit very briefly, the population development trap in which many developing countries were caught following the end of World War II. It was a situation in which population was growing much faster than per capita income thus causing a slow down in economic growth. The challenge then was how to get income to grow faster than population. Many of these countries including African countries tried the "big push" and the "population policy" strategies in order to ensure harmony between the population and economic growth rates and thus promote development.

The "big push" strategy involved stimulating economic growth through heavy investment in the economy. The latter approach called for the integration of population factors in the development plans (IPDP) of the concerned countries. In applying this latter approach, however, a sine qua non for success was the prescribed "modus operandi" which required that whatever policies and strategies were chosen, they were to be based on empirically determined population/development inter-relationships.

As the case studies in the previous section and in Volume II and Volume III show, many African countries have during the past two decades, taken the population policy option and have during the last two decades, progressively formulated and implemented population policies as integral parts of their development plans.

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. Information obtained from the case study as well as other studies[50/] undertaken on this issue, attribute the decline in fertility in Mauritius to several factors. 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 attributable 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 counselling. In fact, the density of family planning clinics in Mauritius in the 1970s was one of the highest in the world.

In a some what similar manner, Botswana's best practices in fertility reduction are rooted in the many pragmatic and positive policies pursued during the last decade. These include a judicious

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50 Wolfgang Lutz (Ed), Population-Development-Environment: Understanding their interactions in Mauritius.

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 as a means of accessing education and employment particularly for women.
Concerning health, policies promoted a systematic and integrated health care system that incorporated preventative 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 and stability and democracy have been important factors in explaining the fertility decline.

The case of Tunisia could be explained by the general improvement of 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 in particular during the last twenty five years, to joint action to raise the marriage age and to the use of contraception which was considerably developed during those years.

To a great extent, the experience of Mauritius, Botswana and Tunisia bears some similarities with that of some Asian countries. The demographic transition that occurred in parts of South Asia as the studies on Asia show, was a consequence of two major factors: an increase in the age at marriage and a 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. Issues in Countries undergoing delayed demographic transition

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

Since the 1960s, the integration of population factors in the development plans (IPDP) of these countries had become an important process in population management. However, African governments' progress with the IPDP process has been constrained by the intellectual difficulty of defining integration, the lack of a critical mass of skilled human resources, the inadequacy of data on the

population development interlinkages and the lack of appropriate methodology[51].

Following the World Population Plan of Action (WPPA) adopted at the third global population and development conference in Bucharest in 1974 and the Kilimanjaro Programme of Action (KPA) adopted at the Second African Population Conference in Arusha in 1984, African countries have 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 inspite of the increasing number of African countries with explicit population policies formulated since 1985.

In Mali, Nigeria, and Cameroon, 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 (CPR of 20%) 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 demographic variables in the economic development and planning process.

C. The challenges of the demographic transition in Africa

Considering the above experiences (best practices) from South Asia, Mauritius, Botswana and Tunisia as well as experiences from such countries as Nigeria, Mali, Cameroon, Egypt, what are the challenges of the demographic transition in Africa?

The experience of some Western European countries shows that fertility can fall below the replacement levels raising concerns about the population growth and structure and their implications for labour force participation, social security services, etc. and the need for conscious efforts to reverse the transition process. The case study on Mauritius shows that the country is presumed to face labour shortage in the long term as it is already importing labour from Asian and other countries. The Government is also conscious of the problem that the ageing population is going to raise in the long-run.

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[51] UNECA, 1997, The Integration of population factors in African development planning: An Assessment of the Progress, current status and modalities of "the Way forward".

Botswana now has a greater challenge of sustaining its past successful policies in the face of a growing population in demographic transition.

There are therefore two major challenges: For countries such as Mauritius, the challenge is to sustain the transition but avoid lowering fertility below replacement levels. For countries which are still to experience the transition, the challenge is for them to practice the lessons provided by Mauritius, Botswana and Tunisia while avoiding the mistakes of those countries such as Mali.

D. The way forward

Considering the large number of countries in Africa still with high fertility and mortality levels, this section would therefore be devoted to the way forward for these countries. In this connection, the integration of population variables in national development plans and the implementation of family planning still represent 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 i.e. fertility control dependent upon the number of children already born specified by Coale and based on extensive surveys of historical and modern fertility transitions:

i) Fertility must be within the calculus of conscious choice due mainly as a result of a psychological and cultural transition that is seemingly and intimately tied to education, especially female education;

ii) Reduced fertility must be advantageous such as for instance reducing high cost of education and increasing the desirability for education as a prerequisite for employment and careers.

iii) Effective techniques of fertility reduction must be available.

It is evident that in the case studies of countries that have been successful in reducing their fertility and mortality rates met these pre-conditions. Given these preconditions the way forward is to correct the inadequacies in the modus operandi in the formulation and implementation of population and development policies and strategies. These are:

i) Ensure that population measures or factors that are integrated into national development plans are empirically derived from the proper population/development inter-relationships;

ii) Prepare realistic strategies that incorporate long- term national objectives derived from the global and regional Plan of action such as the DND, ICPD-PoA, Agenda 21, Habitat agenda, World Food Summit Plan of action, etc...

iii) Ensure that population measures or factors that are integrated into national development plans are empirically derived from the proper population/development inter-relationships;

iv) Early introduction of social and economic policies that provide sustainable livelihoods, reduce poverty, and provide alternatives to the demand for many children.

v) Define more accurate family planning programme objectives by carrying out a realistic assessment of the requirements and demands for the target population;

vi) Provide consistent support to the family planning programme at the highest political level, provide more consistent financial support to the programme, ensure the legislation plays a catalytical role and give the programme a crucial legal framework;

vii) Develop a meaningful information, education and communication (IEC) programme for the target populations including the socio-professional categories and specific risk groups (adolescents, school girls,...)

viii) Reduce the number of sectors involved in the implementation of these policies and strategies and institutionalize a mechanism for effective monitoring and co-ordination.

Statistical annexes

TABLE A.1 TOTAL POPULATION BY MAJOR AREA AND REGION 1750-2050

Major area and region	1750	1800	1850	1900	1950	1997	2000	2025	2050
A. *Total population (thousands)*									
World total	791	978	1262	1650	2520	5849	6168	8039	9857
Africa	106	107	111	133	224	758	833	1454	2145
Asia	502	635	809	947	1403	3539	3744	4785	5761
Europe	163	203	276	408	549	729	730	701	678
Latin America and Caribbean	16	24	38	74	166	492	524	689	839
Northern America	2	7	26	82	166	302	306	369	389
Oceania	2	2	2	6	13	29	31	41	46
B. *Percentages*									
World total	100	100	100	100	100	100	100	100	100
Africa	13.4	10.9	8.8	8.1	8.9	12.9	13.5	18.1	21.8
Asia	63.5	64.9	64.1	57.4	55.7	60.5	60.7	59.5	58.4
Europe	20.6	20.8	21.9	24.7	21.8	12.5	11.8	8.7	6.9
Latin America and Caribbean	2.0	2.5	3.0	4.5	6.6	8.4	8.5	8.6	8.5
Northern America	0.3	0.7	2.1	5.0	6.6	5.2	5.0	4.6	3.9
Oceania	0.3	0.2	0.2	0.4	0.5	0.5	0.5	0.5	0.5

Source: World Population Prospects, 1995

TABLE A.2 ANNUAL RATE OF CHANGE BY MAJOR AREA AND REGION 1950-1955 - 1995-2000

Major area/region	Annual rate of change (percentage)									
	1950-1955	1955-1960	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000*
World total	1.78	1.85	1.99	2.04	1.96	1.73	1.73	1.73	1.57	1.49
Africa	2.23	2.39	2.55	2.56	2.56	2.78	2.86	2.84	2.81	2.66
Asia	1.90	1.97	2.21	2.43	2.27	1.87	1.89	1.86	1.64	1.55
Europe	0.96	1.00	0.97	0.66	0.60	0.49	0.38	0.43	0.15	0.08
Latin America and Caribbean	2.68	2.71	2.77	2.56	2.44	2.28	2.11	1.97	1.84	1.67
Northern America	1.80	1.78	1.49	1.13	1.10	1.07	0.93	0.98	1.05	0.90
Oceania	2.21	2.21	2.15	1.95	2.09	1.13	1.50	1.55	1.54	1.42

Source: World Population Prospects, 1994.

TABLE A.3 CRUDE DEATH RATES AND CRUDE BIRTH RATES BY MAJOR AREA AND REGION
1950-1955 - 1995-2000

Major area/region	1950-1955	1960-1965	1970-1975	1980-1985	1995-2000
1. *Crude death rates*					
World total	20	16	12	10	9
Africa	27	23	19	17	13
Eastern Africa	28	24	20	18	15
Middle Africa	28	25	21	18	14
Northern Africa	25	21	16	12	8
Southern Africa	21	17	14	11	8
Western Africa	28	25	21	19	15
Asia	24	18	11	10	8
Europe	11	10	10	11	11
Latin America and Caribbean	16	12	10	8	7
Northern America	9	9	9	9	9
Oceania	12	11	10	8	8
2. *Crude birth rates*					
World total	37	35	31	28	24
Africa	49	49	47	45	39
Eastern Africa	51	50	49	48	43
Middle	46	46	47	47	44
Northern Africa	49	47	43	39	29
Southern Africa	44	42	40	36	30
Western Africa	50	51	48	48	43
Asia	43	40	34	29	24
Europe	21	19	16	15	11
Latin America and Caribbean	42	41	35	30	24
Northern America	25	22	16	16	15
Oceania	28	27	24	20	19

TABLE A.4 TOTAL FERTILITY RATES BY MAJOR REGION AND AREA 1980-1985 - 1995-2000

(Naissances par femme)

Major area/region	Total fertility rates			
	1980-1985	1985-1990	1990-1995	1995-2000
Africa	6.32	6.08	5.80	5.35
Eastern Africa	6.87	6.70	6.47	5.98
Middle Africa	6.51	6.51	6.45	6.02
Northern Africa	5.55	4.89	4.19	3.73
Southern Africa	4.90	4.50	4.21	3.92
Western Africa	6.66	6.62	6.54	6.08
Asia	3.70	3.40	3.03	2.89
Europe	1.87	1.83	1.58	1.59
Latin America and Caribbean	3.84	3.40	3.09	2.83
Northern America	1.80	1.89	2.06	2.06
Oceania	2.60	2.55	2.51	2.45

Source: World Population Prospects, 1995.

TABLE A.5 LIFE EXPECTANCY AT BIRTH BY MAJOR AREA AND REGION, 1995-2000
(*Years*)

Period	Both sexes	Males	Females
Africa	54	53	56
Eastern Africa	50	49	53
Middle Africa	52	51	54
Northern Africa	64	63	66
Southern Africa	65	62	68
Western Africa	51	50	53
Asia	66	65	68
Europe	73	69	77
Latin America and Caribbean	70	67	72
Northern America	77	74	80
Oceania	74	71	76

Source: World Population Prospects, 1995

TABLE A.6 INFANT MORTALITY RATES BY MAJOR AREA AND REGION, 1950-1955 ; 1995-
(PER 1,000 live births)

Major area/region	1950-1955	1980-1985	1990-1995	1995-2000
Africa	186	112	93	85
Eastern Africa	184	126	106	99
Middle Africa	187	113	95	88
Northern Africa	190	100	67	56
Southern Africa	103	66	54	49
Western Africa	203	114	97	90
Asia	180	83	65	57
Europe	72	18	12	12
Latin America and Caribbean	125	59	45	41
Northern America	29	11	9	7
Oceania	69	31	27	24

Source: World Population Prospects, 1995