

SESSION ONE: POPULATION ISSUES

Malawi's Population Dynamics: Future Prospects and their Socio-economic Consequences

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Introduction

There has been a long controversy over the likely impact of population dynamics on economic growth and development. As long ago as 1798 the Reverend Thomas Malthus argued in his famous "Essay on the Principle of Population" that food production would not keep pace with the population's natural proclivity to grow in an unchecked fashion. In the absence of prudential checks, the result would be starvation, vice, and misery and a tendency for economies to stagnate at a subsistence or poverty level of income.

Yet, such predictions failed to materialize since, in the now developed countries, agricultural productivity rose steadily and population growth slowed as these countries passed through the various stages of the demographic transition and entered the era of modern economic growth. General food shortages did not materialize as the influence of diminishing returns was exorcised by an expansion of the land frontier, capital intensification of agriculture, and improvements in agricultural technology. However, the rate of growth of population in these now developed countries never approached the high level of 3% per annum or more currently being experienced in much of Africa, including Malawi. More recent concern has focused on the negative aspects of such rapid population growth on natural and non-renewable resources, energy and the environment.

A second strand of concern has been related to an assessment of population's impact on the pace and composition of savings and investment. Coale and Hoover (1958) identified three adverse effects:

- i. Capital-Shallowing Effect: Rapid population growth lowers the overall ratio of capital to labour because such demographic growth is unlikely to raise the rate of saving.
- ii. Age-Dependency Effect: Rapid population growth raises "youth dependency" which increases household consumption requirements at the expense of savings.
- iii. Investment-Diversion Effect: Rapid population growth shifts largely public spending into areas such as health and education at the expense of more productive, economic growth-oriented investments.

The 1980s marked a period of less pessimism since a large volume of empirical research began to suggest that population-induced technical change in agriculture, associated with the work of Boserup, could reduce or offset the effects of diminishing returns; and that individuals and firms have a capacity to respond quite flexibly to resource scarcity and changing relative factor supplies.

In sub-Saharan Africa in general, and Malawi in particular, the crucial question will focus on whether technological responses will be sufficient to keep pace with or exceed the growth of the population. By considering only land, water, soil type and technology as constraints on agricultural output, research has suggested that, by using mechanization, modern fertilizers and improved seeds, most countries have substantial capacity to raise production. Of course, the most important factors in determining a satisfactory

outcome are the availability of resources required to adopt the improved technologies, and the policies and institutions erected by governments that affect farmers' incentives to produce. To support this view Alexandratos (1986) concluded, from a study of 38 African countries that "... a country's capacity to feed its growing population... depends only weakly on its land endowments per se and more on other factors". Johnson (1984) is even more emphatic: "... there is not the slightest shred of evidence that continued poor performance of food and agriculture in most of Africa is in any way related to resource restraint".

In terms of the empirical record, what has been the actual response of agricultural production to population pressures, and the resulting impact on labour productivity? In much of Asia the response has been positive and substantial as the Green Revolution has spread rapidly. With good conditions, acreage yields have doubled or trebled. In sub-Saharan Africa, the outcome has been less than satisfactory. For example, between 1965 and 1980, the average annual growth rate of agricultural output was 1.3%; between 1980 and 1988 it was 1.8%. In Malawi over the same periods, agricultural output grew at 4.1% and 2.7% annually. In terms of food production per capita, using 1979-81 = 100, sub-Saharan Africa's index stood at 94 and Malawi's at 85 in the period 1986-88 (World Bank, 1990, pp. 180-185).

An important, critical component of the relationship between technological change and demographic change is the potential for population pressures to induce institutional changes e.g. land tenure arrangements and government policies. No general conclusion can be drawn from the diverse parts of the Third World on whether population pressures result in continuing land fragmentation or in land reform and redistribution.

The Population Dynamics of Malawi Historical Growth

As portrayed in table 1, the population of Malawi has grown rapidly since 1901 when it was estimated to be 737,000, with the crude birth rate at 55.2, the crude death rate at 34.1, and the resulting annual rate of natural increase at 2.2%. By 1987, the size of the population had grown to 7,983,000, of whom about 330 thousand were refugees fleeing from the civil war in Mozambique. The intercensal annual growth rate 1977-1987 of the Malawian population was 3.3%, resulting from a crude birth rate of 53.6 and a crude death rate of 20.9. The increased annual rate of growth of the population over time, therefore, is the outcome of an almost constant crude birth rate and a long-run decline in mortality, resulting from better preventive and curative health care. If fertility conditions (as measured by the total fertility rate of 7.6 in 1987) should remain constant, and mortality continue at its present level, due to the upsurge of malaria and the AIDS epidemic, both of which may offset the recent trend of falling mortality, then the population of Malawian nationals in the country could reach almost 12 million by the year 2000.

Table 1 Historical Growth of Malawi's Population 1901-1987

Year	Population	Average Annual Intercensal Growth (%)
1901	737,200	
1911	970,400	2.8
1921	1,202,000	2.2
1931	1,603,500	2.9
1945	2,183,200	2.2
1966	4,305,600	3.3
1977	5,547,500	2.9
1987	7,982,600	3.7

Source Malawi Population Census 1977. Volume 1, p. 18 and Malawi Population and Housing Census 1987 Preliminary Report, National Statistical Office, Zomba

Fertility and Mortality

Fertility is extremely high in Malawi with the national total fertility rate (TFR) estimated to be 7.6 births per woman in 1977. Underlying socio-economic changes have been minimal since that time such that, perhaps, fertility has remained unchanged. In addition, since the 'modern' contraceptive prevalence rate is estimated to be still very low - at no more than 4% of women of child bearing age - it is unlikely that the TFR has fallen in the intervening years. To endorse this claim, all of the existing evidence shows a pattern of proximate determinants inducing high fertility. For example, marriage for women is early, stable, universal and largely monogamous. Half of all women are married by age 18; almost all marry; remarriage is common and rapid following divorce and widowhood; and only one in five men over the age of 40 report having more than one wife. Child bearing begins early and the incidence of sterility is very low. While breast feeding is lengthy (average 18 months), post-partum abstinence is even shorter (6 months). Nearly a quarter of birth intervals are shorter than 2 years and 60% are less than 3 years (World Bank, 1990).

From the 1950s to the 1970s mortality in Malawi was exceptionally high, and showed only a small decline over this period. Life expectancy is estimated to have risen from only 37 years in the late 1950s to 41 years by the early 1970s. Such low life expectancy reflects very heavy mortality in childhood, with the infant mortality rate (IMR) estimated for that period to be 190 per thousand and child (under 5) mortality at 330 (World Bank, 1990). More recent evidence from the Demographic Survey in 1982 and the Family Formation Survey in 1984 suggests that childhood mortality began a significant decline from the mid-1970s. In extrapolating this decline the World Bank (1990) estimates the current IMR to be 150 and the child mortality rate to be under one-quarter. Life expectancy is now estimated by the World Bank to be 49 years.

Mortality patterns in Malawi show an exceptionally strong disadvantage in childhood relative to adulthood. Rising life expectancy is a reflection of declining infant mortality over time, consequent upon improvements in health and nutrition. Even so, infant and child mortality in Malawi remain amongst the highest in the world and are indicative of the widespread poverty prevalent among large sections of the population.

The normally expected decline in mortality may be temporarily interrupted by the speed and intensity of the AIDS epidemic which may well have a major demographic impact in the next decade or so. The current HIV prevalence rate among the adult population is conservatively estimated to be about 10%, with the urban rate at double the overall average. As we might expect, however, the demographic impact of AIDS will depend crucially on how the population of Malawi changes its behavioural pattern in the near future. The pattern of recent past and near future incidence rates of HIV infection will help to determine the nature of demographic change for decades to come.

Population and Development in Malawi: Future Prospects

Several important conferences on the role of population dynamics in development were held during the 1980's. In January 1984 the Second African Population Conference was held in Arusha, Tanzania. This meeting concluded with the adoption of the Kilimanjaro Programme of Action for African Population and Self-Reliant Development. That programme of action included recommendations to the member states of the Economic Commission for Africa, as well as recommendations for action by international organisations and donors. The Second African Population Conference was a prelude to the International Conference on Population held in Mexico City in August 1984. Like the Arusha Conference, the Mexico City meeting issued a wide array of recommendations for action by member governments. In 1986 the All-Africa Parliamentary Conference on Population and Development was held in Harare, Zimbabwe to discuss implementation of the recommended actions. Two of the recommendations and strategies suggested by the Second African Population Conference are especially noteworthy for the purposes of this paper:

1. "Population should be seen as a central component in formulating and implementing policies and programmes for accelerated and socio-economic development plans". (Recommendation No. 1)
2. "Greater efforts should be made to create increased awareness of the importance of population in the development process and highlight the need for more education and information on the social and economic consequences of demographic change on national development strategies in health, education, housing, employment and nutrition." (Recommendation No. 3)

The purpose of this paper is to respond to the above recommendations by examining the impact of alternative scenarios of population growth and structure on Malawi's socio-economic development. The relationships between population factors and social and economic development are very complex, and any study which seeks to provide an overview will necessarily miss some of the complexities. However, the basic population trends and their importance to Malawian development should be accurately reflected.

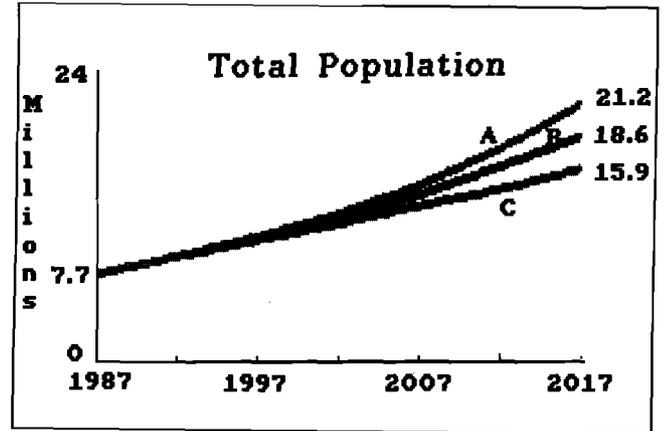
Population is only one element in the development process. However, as both the Second African Population Conference and the International Conference on Population recognized, it is a variable of potentially crucial importance. It is, therefore, useful to examine the extent to which population factors will affect the national development goals for satisfying the needs of Malawi's people for income, employment, education, health services, urban services and nutrition. The various sectoral programmes and economic policies will also have both direct and indirect effects on demographic parameters and population outcomes. Thus population growth has a direct impact on development, while development programmes and policies can also affect the rate of population growth.

The main development goals of Malawi, as given in the Statement of Development Policies 1987-1996, include efforts to raise living standards and productivity in the rural areas and achieve an average annual rate of economic growth of about 4% through the parallel development of smallholder production, estate production and industry. Sustained economic growth will require continued emphasis on human resource development and efficient management of Malawi's natural resource base. This analysis explores the impact of population growth on the ability of Malawi to achieve these major social and economic objectives. More specifically, the effects of different projected rates of population growth on Agriculture, Labour Force, Education, Health, Environment are shown in the following charts.

ASSUMPTIONS

Projection Assumptions

Total fertility rate in 2010	
Scenario A	→ 7.6
Scenario B	→ 6.0
Scenario C	→ 4.0

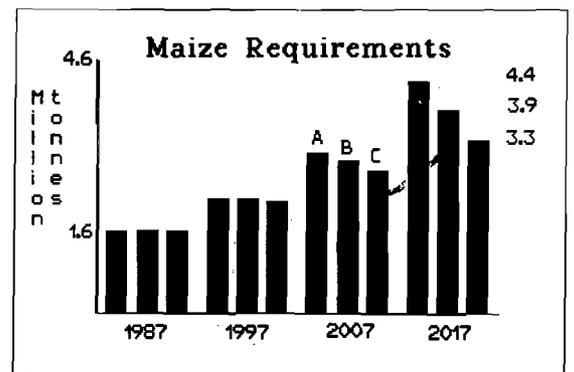


AGRICULTURE

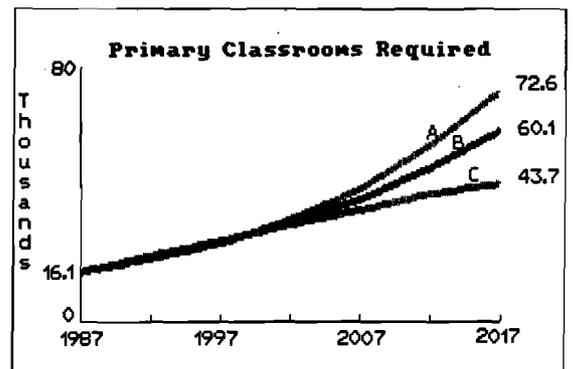
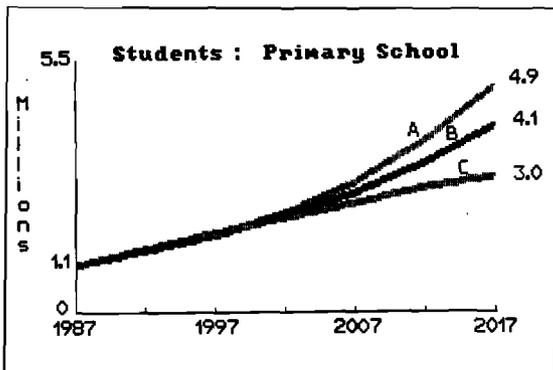
Arable Land
(Total = 5,185,600 ha)

Hectares per family of five

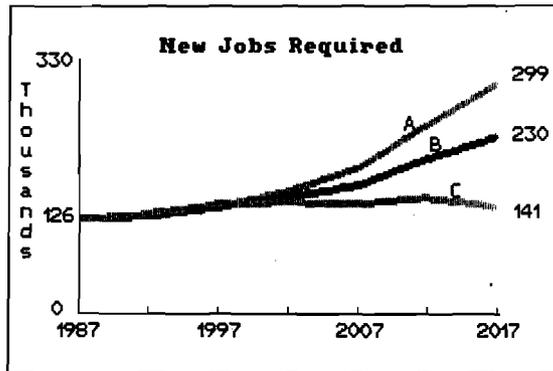
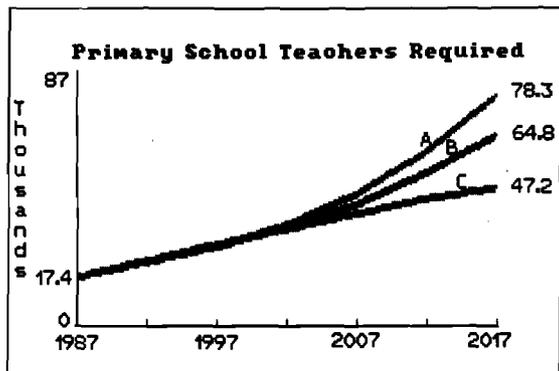
1977	4.8
1985	3.7
1995	2.7
2005	1.9
2015	1.4



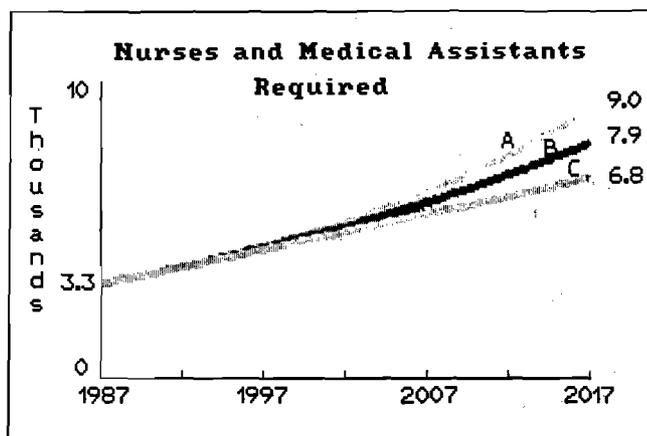
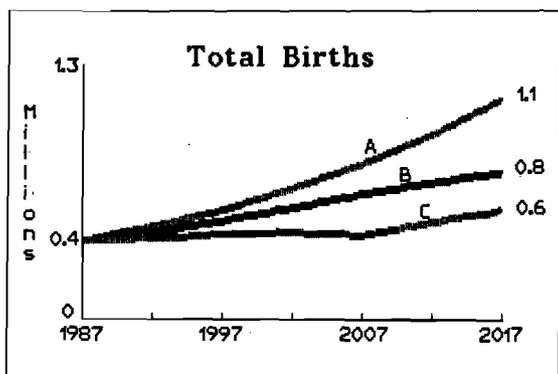
EDUCATION



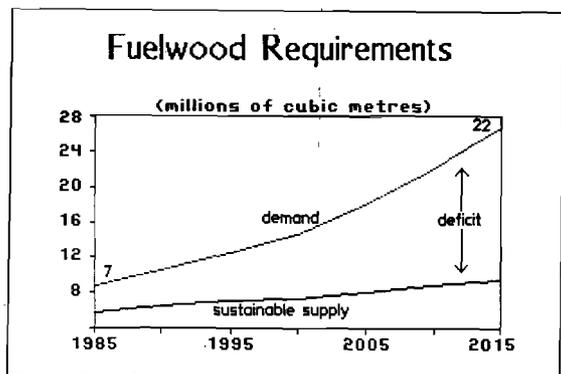
LABOUR FORCE



HEALTH



ENVIRONMENT



CONCLUSIONS

Conclusions:

- Malawi is experiencing a high rate of population growth.
- This will have a significant impact on every sector of the economy.
- There is therefore a strong need to incorporate population variables in development planning for sustained development.

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