Population and Development Indicators

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ABSTRACT

The concept of population is contrasted to that of development in the African context and seen to be closely related. Different propositions regarding this relationship are considered and the consequent effects seen either to impede or enhance the living conditions of people. The problem of population and development is viewed as having a spatial consequence, particularly through the migration into the cities of many people from the rural areas. Although conceptual difficulties do arise in any attempt to measure change, this should not prevent us from attempting to address the issues concerned. Factors which need to be taken into account by Africa planners and policy makers include such areas as employment, availability of food, education, health, housing and equality of opportunity for all.

Introduction

It may prove worthwhile to start by mentioning that the interest in incorporating the population variable into development planning schemes, especially in the developing countries, has stemmed from the basic failure of post-independence efforts to improve living conditions of the majority of the people. Historically a scientific based 'population awareness' concept can be traced to the time of Malthus (1798), when thinkers began to assess the role of food in human survival plans. Malthus predicted that since the human population increases geometrically and food supply increases only arithmetically, a point in time would be reached when there would be famine -unless war and pestilence, or some moral restraint, were exercised. Since the 1950s rapid population growth has stimulated considerable debate on food problems and related economic issues in LDCs. The role of demographic factors in planning derives from their nature as both determinants and consequences of economic and social development. The population variables relevant to planning include: population size and growth rate, sex and age structure, spatial distribution, internal migration and urbanisation.

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Demographic factors may also be considered as consequences of planning since they can be expected to undergo change as a result of the planned process.

In a typical African country such as Zimbabwe, where no well-defined population policy exists, there are two divergent major ideas on population:

the traditional (mostly rural) society is proponent of high fertility levels - because these give some form of social security at old age, a source of 'free' labour, social prestige and some adjustment to high infant/child mortality

Early marriage is also contributory to high fertility levels. Some theorists contend that Africa has entered the Second Demographic Transition stage, whereby mortality is declining steadily (due to improvements in health and medical facilities) and fertility is persistently high.

the modern (market-oriented) society favours lower fertility rates bcause a new economic life-style has been assumed, encouraging late marriages, less responsibility for dependents, and high quality living assurance.

Population regulation

A widely held view - the 'natural earth view' - is that there is a virtually fixed land area suitable for growing food and supply of energy for tilling the land that is being depleted. Thus it is impossible to continue to produce food for the growing world population. Alternatively, the 'social-economic view' is that man has the ability and intelligence to lessen his dependence on land and traditional sources of energy through technical innovation, which Ricardo or Malthus could not have foreseen. The former viewpoint provided the analytical basis for the 'alarmist' view of population growth which prevailed in the 60s. As we shall note later, such models were too simplistic.

This simplistic nature of some models combined with some myths that grew up around population issues help to explain why there have been difficulties in relating population variables to overall economic development. One myth to be discarded is that population regulation mechanisms are a novel phenomenon in Africa. This idea arose partly from the assumption that traditional societies produced a maximum number of children but that their populations grew slowly due to attrition caused by high death rates. In Africa biological and social mechanisms, as well as ritual restrictions, have been used for birth regulation and child-spacing. What is needed is the integration of family size influences with various factors of development policy including economic, social, education, health and employment factors among others. Furthermore, what is needed is the realisation that real investment is in human capital (quality of life) rather than in physical inputs. Our

governments must develop a conceptual framework for incorporation population changes into development policy. To this end we should encourage the establishment of national population studies units within government departments, whose major role will be to study and interpret the relationships of the population variable with other socio-economic factors.

Population indicators

(i) *High Dependency Ratios:* A highly dependency ratio, with the implied rapidly increasing school age population, should be viewed as a burden on resources and the labour force. A high dependency ratio might imply a younger, healthier and more productive future labour force; but this is offset by the social costs of the infrastructure needed to sustain a youthful population. A fall in the proportion of the population below the age of 15 would lead within a decade or two to a complementary drop in the labour force. These developments, in a way, tend to release national resources from child consumption to savings for investment purposes. High dependency ratios in pre-industrial Europe were not as much of a hindrance to development because mortality rates were also high. In Africa and other developing regions the converse is true, mainly because of relatively higher fertility and relatively lower mortality, due to advances in medicine and health facilities, which raise both the population growth rate and birth rate.

'Youthful populations' consist of those populations where the percentage of the population below the age of 15 approaches 40-50%. Hence youthful populations:

> have a broad based structure
>
> have a persistent growth of the labour force whose rate is greater than the total population growth rate.
>
> imply that children enter the labour market much earlier, often untrained, and not very productive.
>
> imply that greater resources will be needed by government for vocational and other training programmes.
>
> imply a faster growth rate in school age populations which lead to unfavourable teacher-pupil ratios where the quality of education is often sacrificed.

A high proportion of the child population (below 15 years of age) implies a somewhat smaller proportion of the economically active population (15-64 years), this in turn implies that the bulk of the economic burden of maintaining the young and the old is borne by a relatively small proportion of the labour force. African countries have larger nuclear families and extended relationship structures. This characteristic, compounded by high dependency ratios, could be serious when seen from the viewpoint of mobilising domestic

savings and growth-inducing capital formation. To what extent do broad-based population structures and extended family systems influence a country's potential for high investment levels?

In Africa very often high fertility and high mortality prevail in the rural areas. Thus reductions in fertility and mortality may be effected through rural development, raising the socio-economic status of women, and encouraging their participation in the economic sector.

(ii) *Population and Food Supplies:* As has been noted, in general, the rate of population growth is in excess of the rate of food production - hence the occurrence of famine in a number of countries. A remedy has always been food imports which drain scarce foreign currency reserves. African countries have become large importers of food. In 1979 the per capita calorie supply was estimated to be 91 per cent of the minimum nutritional requirements of the people in the LDCs, a fact which implies that the continent is underfed.

(iii) *Internal Migration:* A major issue facing several African countries is the rural-urban migration caused by urban attractions, urban-rural income differentials and the lack of amenities in rural areas. On the average about 80 per cent of the national population in Africa reside in the rural areas. The rural-urban drift creates pressure on the employment market, housing, education and health services.

The 'bright lights' attraction of the cities bring scores of young men into the urban areas in the expectation of paid employment. As migration is usually age and sex selective, the rural-urban migrants are mainly able-bodied young males in their twenties. The condition resulting from population pressures on medical, educational, housing, employment and social facilities has been referred to as the urbanisation of rural poverty. In some instances slum dwellings and shanty towns have mushroomed in the wake of migrant movements, with the attendant health and sanitation hazards ('social pollution'). The question to pose is: If rural-urban migration is inevitable, can it be contained in the urban infrastructure.?

Migrants face two distinct types of proble,s in the urban setting:

the frustration of job seekers who are unable to obtain the type of work or the remuneration which their education has led them to expect in the urban setting.

the mismatching of the types of remunerative work that is available and the job expectations of the entrants to the labour force, ie the problem of the working poor.

This often means that the rural migrants urge to move into urban areas is so great that very often they leave behind a healthier environment in the countryside for life in the polluted, crowded and slum areas of the city. An

important condition for the rapid growth of agricultural production and rural incomes in Africa is that the most able of the young villagers must be prevented from migrating to towns, and instead must become the spearhead of progress in the rural community. This means that socio-economic amenities must be provided in rural areas.

Concept of development

Compared to other continents Africa has the highest crude birth rate, crude death rate, infant mortality rate and the lowest life expectancy. The average school-age population (under 15 years of age) is around 45-50 per cent of the total population, implying a heavy dependency burden. Thus Africa has been governed by transitory socio-economic systems, with a variety of structural problems: illiteracy and the lingering of irrelevant concepts as part of the cultural dependency problem. It is said of Africa that 'we produce what we don't consume, and we consume what we don't produce'.

Development has been defined as fundamentally about, by, and for human beings, and it entails among other issues basic needs satisfaction, self reliance, promotion of popular participation in economic life, and the frugal and proper use of natural resources and the environment. It can be debated whether the concept of development should embrace such matters as inflation reduction, environmental pollution or crime, all of which are important for national welfare but not necessary for distinguishing developed from developing countries.

In several African countries the raising of living standards in the rural areas has become a preoccupation amongst politicians, planners and policy makers. Thus, in one sense, when subsistence activities are replace by specialised production, and traders appear in the villages, then real development can be seen to unfold. In a way conceptual difficulties have often surrounded the debate on population and development, for example the difficulties in choosing appropriate developmental indicators.

Development indicators

In recent years there has been a growing need to develop an indicator system which provides a 'holistic' perspective of overall development, with emphasis on the social dimension. Such development indicators must address themselves to measureable aspects of social welfare and levels of living. They must quantify aspects of structural change, eg interrelationships of GDP with employment, class structure and property relations. However, they should not be confined to monitoring progress only in terms of output or final objectives but also in terms of inputs or instruments, eg industrial growth may not be

promoted at the expense of environmental or water pollution. Quantative indicators are not wholly explanatory for they may not interpret qualitative attributes. If, for example, school enrolment has greatly improved over the years, whose children are still not enrolled and what quality of education is being offered?

Indicators are interrelated in a number of ways, and they influence one another in ways that are difficult to explain. In the circuitry of different indicator-variables quite different causal relationships turn up for the same items: eg life expectancy in one model is a function of food availability, in a second model it is determined by household income, in a third it is a function of school enrolment, birth rate and size of the agricultural population. Quite a number of otherwise popularly used indicators are poor instruments for comparative measurement. Consider for example primary school enrolment as a percentage of the primary school age group in a population. It has two basic weaknesses:

> first, countries differ significantly in primary school duration, ranging from 3 to 10 years. A short duration of primary schooling tends to increase the primary enrolment index, and a long duration tends to decrease it (in part because of more dropouts among the older children). Enrolment ratios tend to go down when primary school durations are lengthened, and to go up when they are shortened.

> second, the primary school enrolment ratio is a gross ratio which related the number of children of whatever age enrolled in primary school to the size of the official primary school age-group. Many enrolled children may be older or younger than the official age range because they started late, or early, are repeaters, or are older students studying basic literacy. Net enrolment is the percentage of children actually of primary school age who are enrolled. As educational systems develop, gross primary enrolment ratios decline and differences decrease between gross and net enrolment figures.

The percentage of population in urban areas is a poor indicator for international comparability because there is no internationally accepted definition of the term 'urban'. Statistics of infant mortality are also highly questionable, not only because respondents failed to answer questions correctly (or to be asked the right questions), or failed to report infant deaths, but also because infant death is a statistically 'rare item', with a high degree of variance, which requires large-sample surveys. Likewise, statistics on literacy should be compared with caution because of differing definitions of 'literacy'. Ability to read and write is the obvious test of literacy, but sometimes reading only or writing only is used. Also, literacy data are normally available after decennial censuses, making if difficult to update the information within shorter periods.

Population and economic development

In the past the concept of development was often equated with economic growth, and the paramount planning objective was an increase in aggregate or per capita income. It was soon realised that development should aim at improving the quality of life of the individual and the society as a whole, through high rates of economic growth accompanied by structural changes and reduced disparities between religions, sectors and social classes. It involves lowering levels of mortality, reducing the pace of rural-urban migration, improving levels of employment and the role of women, proper utilisation of natural resources and the environment. The World Population Plan of Action (Bucharest 1974) proclaimed that "the basis for an effective solution to population problems is above all social transformation."

The impact of population growth on economic development has been the subject of considerable study and controversy. Views range from one extreme that rapid population growth is an obstacle to economic growth, to the other, that a high population growth provides a necessary stimulus to economic growth. Population and development are inter-related: population variables influence develoment variables and vice-versa.

We have noted earlier that as a result of the high rates of population growth, a number of African countries seem to face the persistent twin problems of:

an increasingly young population (0 - 14 years), approaching 40 - 50 per cent of the total population, resulting in a dependency ratio of around 1:1

current labour supply growth rate is slower than population growth rate (which is too rapid in relation to employment generation). The labour replacement ratio (ie labour force entries to withdrawal) is around 3:1.

Thus a rapid increase in unemployment in Africa is partly due to the fact that the national population and labour force are growing faster than the rate of job creation. Below, in figure 1, we show briefly the determinants of labour supply and labour demand.

Development planners must grapple with the task of articulating these determinants to generate a sound economy.

Certain Africa countries with low population densities (eg Libya, Botswana) might find it appealing to adopt pre-natalist policies - with the major aim of boosting the labour force. However, it would be extremely difficult to halt or slow down the population growth rate once it has gained momentum and a huge investment would be required to maintain the resultant youthful population.

Fig 1.
Determinants of labour supply and demand

Labour Supply	*Labour Demand*
Fertility, Mortality	*Economic Growth*
Migration	*Structure of the economy*
Age Structure	*Technology and industrialisation level*
Economic, Social and Cultural factors	*Factor prices, wage policies*
	Import Substitution, etc

The problem restated

In seeking to contribute to the debate on development issues we must endeavour to describe the development process itself. The six problem areas which link population and development strategy seem to be employment, food availability, education, health, housing and internal migration. A development strategy which maximises GDP will not solve these acute employment, housing, health and educational problems. Planners must give more serious consideration to the choice of appropriate technologies and development of the rural areas and the informal sector. A sound rural development plan should aim at improved agricultural marketing and credit facilities and raising the status of women.

In consequence African planners and policy makers must address themselves to the following population related problems:

— rapid growth of the labour force (employment creation)
— rapid growth of school-age population (approximating one-half of the total population)
— population pressure on land and public facilities (the resource gap)
— rural to urban migration
— equitable distribution of goods and services
— deployment of appropriate and indigenous technologies
— massive rural development and poverty reduction programmes.

Thus African governments will need to develop adequate and efficient information systems for development purposes. In order to integrate the population variable into a user-oriented conceptual framework we need to carry out regular population censuses, household surveys and other specialist studies, in addition to improving various registration systems. But statistics,

be they indicators, frameworks, models or other forms of indices must be used and interpreted with caution and sound judgment. The domination of poorer countries through a new 'information imperialism' should be avoided. Rather, the applications of productive statistics should be strenuously promoted as a cooperative effort.

References

Population Reference Bureau Inc (1979) **World's Children Data Sheet,** Washington DC.