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POPULATION CHANGE AND SOCIO-ECONOMIC DEVELOPMENT IN ZIMBABWE : A LITERATURE REVIEW

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ABSTRACT

The relationship between components of population change and socio-economic change are seen as vital and a focal point for the building of development plans. It has been established that fertility and migration levels respond to developments in the socio-economic spheres, worldwide. It is also argued that the relationship between components of population change and socio-economic development are mostly non-linear and often are subject to time lags which make their measurement and description difficult. The literature on Zimbabwe is examined in relation to the issues of population change and socio-economic development. The conclusion is reached that, as far as the literature on Zimbabwe is concerned, few attempts have been made that link population change and socio-economic development directly.

1. INTRODUCTION

This paper reviews some of the literature on population and development in Zimbabwe and the wider world in general. The field reviewed is wide and varied. The literature falls within two broad categories i.e. that which deals with Zimbabwe and that with the rest of the world. The literature will be dealt with separately. The separation is a response to the different approaches and issues on population and development in Zimbabwe and the rest of the world.

The review is divided into four main sections. The first discusses the issue of population and development in general. The second poses questions and issues which have been and need to be investigated. The third highlights the literature on the broader world context. The fourth focuses on the specific context of Zimbabwe. In these two sections, the theories, the concepts, the approaches and the methods are analysed.

2. POPULATION CHANGE AND SOCIO-ECONOMIC DEVELOPMENT: A DISCUSSION

The United Nations (1981) discusses the way population and development models should be linked. The reason for linking these two is found in the long recognised fact that population and development affect each other. Jones (1980) argues for the need to provide accurate population forecasts at the national, regional and, if need be, at the local level by linking these to development and planning issues at the relevant levels. Development is a term both Jones and the United Nations use comprehensively. It is used to refer to both economic and social developments as well as cultural and political issues of development. The United Nations (1981) argue for demographic variables to be central to the development process. They cite the fact that the age structure of a population has a profound influence on the size of the labour force, the demand for health services, the demand for education, the size of the pension bill and the overall consumption patterns of the nation. In their turn, social and economic variables affect the demographic ones. Fertility, mortality and migration are affected by social and economic factors such as health, education, employment opportunities and differential wage rates, to mention only a few. Due to this connectedness of demographic and development factors, it is possible to influence demographic events through appropriately designed developmental issues, though Todaro (1969) notes that the direction is not always that predicted or the desired one.

So far, population and development have been used without being defined. Clark (1985) defines population as the total number or a specified group of people,..., living in an area. This definition is echoed by Goodall (1987) with the addition that it is the number of people living an area at a particular time. Development on the other hand is more difficult to define. It is surrounded by a lot of controversy as its interpretation involves ideological issues. Clark (1985) defines it as the act of causing to grow or to expand or to realize what had formerly been potential. Goodall (1987) calls it the process of becoming mature or better organised. He further makes the more specific definition related to economic and social contexts. In economic and social contexts it is the state of nations and the historical processes of change experienced by them. For example, from a geographical viewpoint development can be viewed as the extent to which natural resources of a nation have been brought into productive use. In this sense, it is realizing what formerly had only been potential. Johnston (1981) makes a lengthy argument over what development should be. In his view, no nation has as yet attained the stage of development because this stage involves no exploitation and an equitable distribution of resources. My definition is the conventional one as used by Clark and Goodall.

Conway and Joun (1983) note the recognised interaction between regional economic and demographic activity. They cite the interest shared by economists, demographers and geographers in this field. They back their argument by pointing out the wide range of empirical and theoretical work which has been carried out, from Isard's channels of analysis through Becker's economic theory of fertility to Gordon and Ledent's demoeconomic

model. This establishes firmly the continued interest in the interaction between population and development.

Cochrane (1975) describes the rapid expansion in both theoretical and empirical work that links fertility variations to economic activity since Becker's paper in 1960. The most noteworthy aspect of this growing research area was the focus on the household as the decision making unit that affected demographic outcomes. The decisions of the household are themselves based on the perceived economic and social conditions prevailing within the region or nation. The focus on the household has not shifted much since the 1960s though in the 1980s concern is being voiced over the wisdom of continuing to focus on the household without mapping in fully the social and institutional surroundings. These will act to encourage as well as constrain the household in its decisions (United Nations 1981; Cain 1985, 1986).

Governments have also shown an interest in the interaction between population and development. This stems from their need to design plans and policies that can be implemented accurately. Most developing nations follow the Eastern Bloc countries in producing five year development plans. As Jones(1980) argues, for the successful implementation of these plans to take place, the planners must take into consideration all the social, economic and demographic issues that are likely to influence the plan. Further, they must be able to predict the changes in both the developmental and the demographic conditions as well as the likely direction these changes will take. To do so effectively, they need to understand the demographic and development interaction.

The United Nations (1981) backs Jones's view by stating that the understanding of the interaction between population and development might mean the difference between successful and disastrous national planning policies. Understanding the population and development process will provide a framework for the analysis of issues that are at the interface between the two and produce projections that are mutually consistent. The need for consistent and accurate projections arises from the need to forecast future changes in either population or development as well as the direction that change will take.

The main components of demographic activity are: fertility, mortality and migration. These determine the size of the population and its age and sex structures. They also influence the rate at which regional and national social and economic progress is made. The economic and social variables are many and more varied. Aspects covered in the literature on population and development include land (tenure, size, availability), labour force, urbanisation, employment, health, education, and cultural factors such as religion and ethnicity. These influence the population in various ways. Improvements in health cut down on mortality rates leading to improved survival chances at birth as well as increased life expectancies. Increased life expectancy in its turn affects the size of the pensions bill as well as matters of insurance such as life insurance and the need for various social security schemes. Education, especially that of females, induces changes in tastes and attitudes towards family

sizes and the desired number of children as well as consumption patterns (Sandell 1977; Cochrane 1975; Rosenzweig and Evenson 1977).

Enhancing the understanding of the interdependence between population and development and the patterns of change between them will enable more effective planning. These changes are not as simple as outlined in the paragraph above. They are mostly complex, non-linear, subject to lags and may run in either direction i.e. from population to development and vice versa (United Nations 1981). Theoretical and empirical research must provide planners with a thorough understanding of the processes of population and development. This will enable them to formulate national and regional plans and policies that respond to changes in either the population or the development variables. Failure by planners to take into cognizance the interaction between population and development might lead to policies and plans that are poorly conceived and that do not come to grips with the genuine development needs of the nation or regions.

3. POPULATION CHANGE AND SOCIO-ECONOMIC DEVELOPMENT: THE QUESTIONS

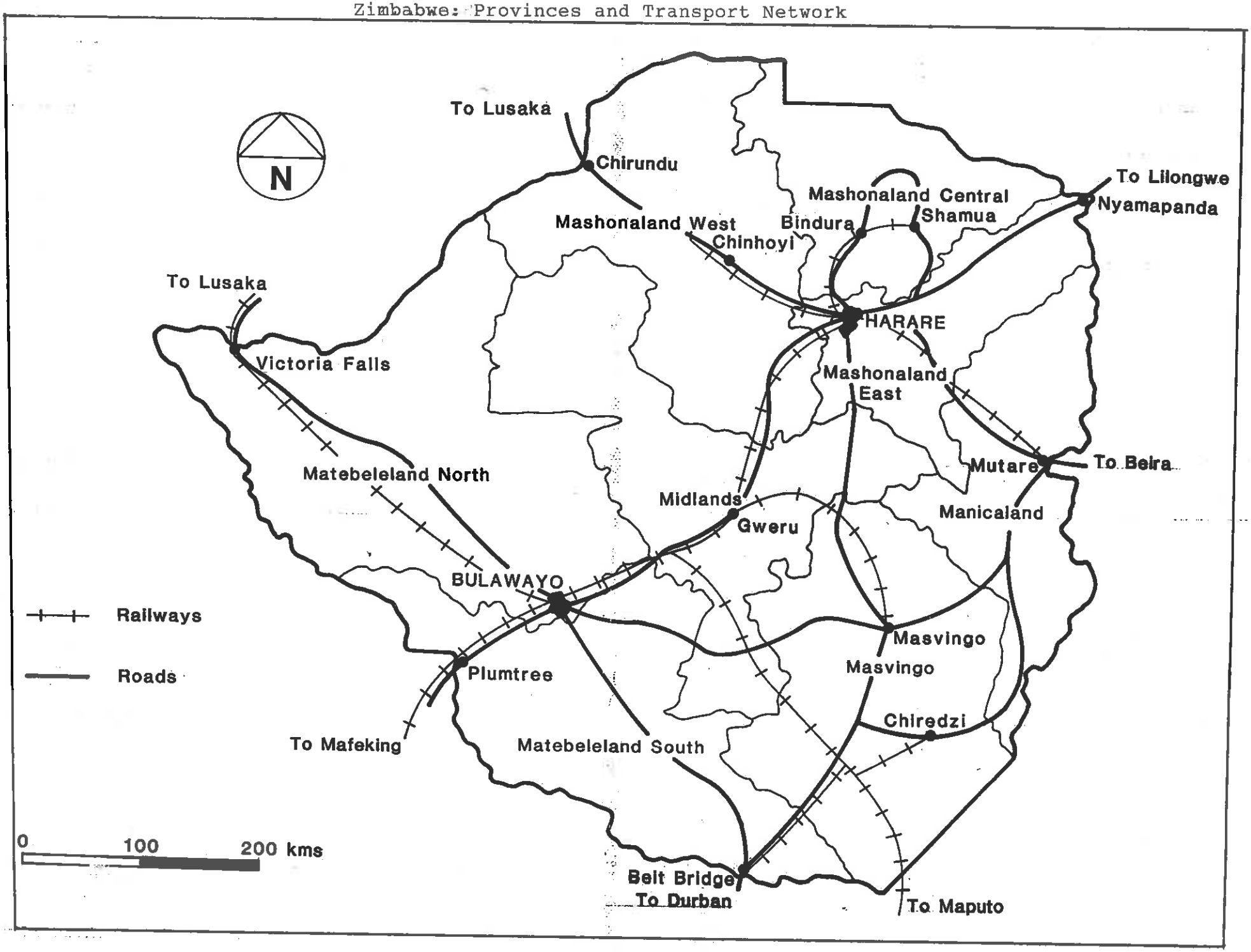
Having discussed what population and development entail, it is important to pose questions that might enable the investigation of the links between them. Some of the questions which the literature addresses are outlined below. These are mostly relevant to the literature on the rest of the world. The literature on Zimbabwe addresses different questions and these will be discussed under the section dealing with Zimbabwe. The questions will aid the discussion and evaluation of the literature.

The most appropriate starting point for any research that claims to deal in detail with population and development is to examine the current demographic processes within the country. Those of the economic and social system need to be mapped in as well. In relation to Zimbabwe, one can pose the question: what are the current fertility, mortality and migration levels, both at the national and provincial scale? Note that the province is the major regional unit for the country (See Map). The current fertility, mortality and migration levels are important in determining the composition of the population at both the national and regional scales. They also determine the likely future trends of population growth. This holds true even for situations where economic and social developments are largely ignored. The cohort survival model, for example, projects future regional or national population based upon current demographic trends. These trends are measured as transition probabilities or rates based upon the observed ones (Isserman 1985). Economic and social variables are not explicitly modelled in the cohort survival model as would happen in the demoeconomic models proposed by the United Nations (1981).

With regards to social and economic development, one might ask: what are the current patterns of social and economic development? How are they likely to change in the future? How is this change likely to affect population? The answers to these questions are harder to come by. Isserman (1985) points out that it is harder to predict future paths of social and economic development as this involves taking into consideration both internal and external factors that influence the direction of development trends in any country, than it is to predict demographic processes. Demographic processes change more slowly than do the social and economic ones and are therefore easier to predict using the transition rates mentioned above. However, for the purposes of building a proper population and development model or for analysing the processes and inter-linkages involved, it is necessary to try and predict the direction of future economic and social changes based upon current trends.

Developments in the health field have an important bearing on demographic processes. The health field will be taken to include the adoption and use of contraceptives. How do developments in the health field affect infant, child and adult mortality? How do these effects influence changes in desired family size and therefore overall fertility levels? How does the availability of contraceptives help in the attainment of the desired family size?

Zimbabwe: Provinces and Transport Network



It is important to determine the role of contraceptives and health as these complement each other. Cochrane (1975) notes that the desired family size can be attained through the use of contraceptives and that the decision to have a child is separate from sexual activity. Becker in his 1960 paper discusses the same issue of separation of decisions to have a child from sexual activity and the role of contraceptives in attaining desired family size without overshooting. Improvements in health causes drops in infant and adult mortality which initially result in rapid population growth but are sooner or later followed by declines in the fertility rates (Seiver 1975). Other effects included a healthier labour force and one that lives longer after retirement due to increased life expectancy.

Education has two related components. The first is: what is the level of educational attainment or literacy within the region or the nation? How are they likely to influence attitudes towards family sizes and migration patterns? The latter question is asked because of the recognition that education in most developing nations is biased towards the diffusion of urban values. This enhances the already accepted factor of migration as being age-sex selective by making it education selective as well. The second major question is related to female education or literacy. What is the extent of female participation in the educational system and what is the extent of their educational attainment? Female education has an important bearing on fertility which it affects negatively. It is closely related to another variable that of female labour force participation, which will be discussed latter.

For rural populations, the land that is available for their use and the institutional arrangements that govern their access to it, are accepted as important issues in their social and economic development. How do land tenure structures, land availability and the size of landholding affect fertility and migration patterns? How is land inherited in the household and does this have any significant impact on migration and fertility? Of interest too is the length of time which the land has been settled in determining differential fertility and migration patterns between rural areas. Land is considered an important issue in the study of population and economic development because it is the only reliable measure of rural incomes which the researcher has at his disposal. It is also a dynamic variable that changes with changes in attitudes (socio-political), incomes as well as increases in population. Economic changes such as those Africa or Zimbabwe was subjected to due to incorporation in the Western capitalist economy (e.g. the introduction of private land ownership or individual land tenure system) also led to changes in the perception of the value of land by the African people. This is further evidence of the multi-faceted nature of the variable termed land.

Income, employment, unemployment, wage differentials and urbanisation can be treated together. For developing nations these factors commonly operate in the urban centres. Rural non-farming employment might not be of great significance though this assertion might

be a gross generaisation. The question is as usual: how do these variables influence fertility and migration patterns? The other interesting aspect of this group of variables is how they are measured. How does one measure household income? Or, how does one measure urbanisation which is both a social and physical process? The method of measuring these variables determines the magnitude and probably the direction of the predicted changes in the economic - demographic interaction. In studies that view development as the engine that drives the economic - demographic machine, these variables are seen as the most crucial in predicting future changes as well as understanding present ones.

Labour force status is a major area investigated by both economists and demographers. Several questions can be posed. What is the effect of changing proportions of the labour force between agricultural and non-agricultural activities on fertility and migration? What role does female labour force participation have on determining fertility and migration decisions? What role does the growth of nonfarm activities play within rural areas in determining fertility and migration patterns? The changing relationship between the population in agriculture and that in nonfarm occupations is an important one for understanding past, present and future trends of population and development.

Migration on its own is also an interesting area of study. it has its own sets of questions. Some of these have already been covered above. For example, how do differential rates of social and economic development affect migration? How does migration affect other demographic processes like fertility and the composition of origin and destination populations? What form or forms does the migration take and what implications does this have on economic and demographic processes? These questions try to highlight the role of migration in the population and development field.

Where does mortality fit in all this? It is a recognised component of population change and as such should be treated as a dependent varaible in its own right. The main reason why it is largely ignored in this and most other studies is simply because it is the most unreliably measured of the demographic variables. In most developing countries, data on mortality is virtual non existent or is of such poor quality that its use in regressions is of doubtful value. Thus only the official estimates of infant mortality have been used as independent variables in analyses on fertility. Perhaps, this is the most important way in which estimates on mortality can be used in the analysis of the relationship between demographic change and socio-economic development.

This section has tried to address the questions necessary for a proper investigation of population change and socio-economic development. The next turns to examine the literature in the broader world context which has been used in trying to answer these questions before moving on specifically to Zimbabwe in the next section.

4. POPULATION CHANGE AND SOCIO-ECONOMIC DEVELOPMENT: A GLOBAL VIEW

This section examines some of the literature on population and development in the context of the world. It is divided into two major subsections. The first examines issues related to fertility and socio-economic development. The second deals with migration.

4.1 Fertility and socio-economic development

The determinants of fertility have for long fascinated both economists and demographers. Becker(1960) ushered in the era of the economic theory of fertility. This theory applied to the analysis of fertility the same supply and demand theory that the economists used in analysing consumer or production goods. The result was the rapid growth in both the theoretical and the empirical investigation of the determinants of fertility (Cochrane 1975). Becker's paper focused mainly on fertility and income but his theory has been extended to cover a wide range of social and economic factors of development. These include such areas as education, health and contraceptive use, land, labour force status, urbanisation and so on. The literature covering these factors shall be examined in detail below.

4.1.1 Fertility and income

Becker(1960) argues that children should be positively related to income. He draws this argument from Malthus who postulated that increased income should enable parents to afford more children. However, Becker notes that in reality this relationship is not always a positive one. The wealthier members of society are also known to have less children. He therefore proposes two hypotheses. The first postulates that children will be positively related to income only if they are seen as productive goods. The second sees them as negatively associated with income if they are taken as consumption goods like cars and other consumer durables. The household decides through a series of cost-benefit analyses whether to have another child or not as their income increases. If the child is viewed as contributing to further family income then the parents will have another child. If not, then the child is not "produced". All this decision making is arrived at through weighing the relative advantages of children vis-a-vis other goods. Opportunity costs are what then determine what the family decision will be.

The relationship hypothesized by Becker seems to hold for different communities. Rural communities tend to afford more children with rising income because of the lower costs of raising children on the farm as well as the early age at which children begin contributing to household incomes. Urban communities seem to afford less children with rising income because of the higher opportunity cost of raising children in urban areas as well as a host of other factors like urbanisation which seem to influence parental taste for children.

The arithmetic sign for income and fertility still causes some debate. As mentioned above Malthus thought that it should be positive.

Isserman (1985) and Cochrane (1975) reviewing models on fertility find that a lot of empirical studies find the relationship with income to be negative. The conclusion they reach is that overall fertility levels have fallen with rising incomes despite continued belief that this relationship should be positive. Why then is a relationship postulated to be positive found to be negative in empirical studies?

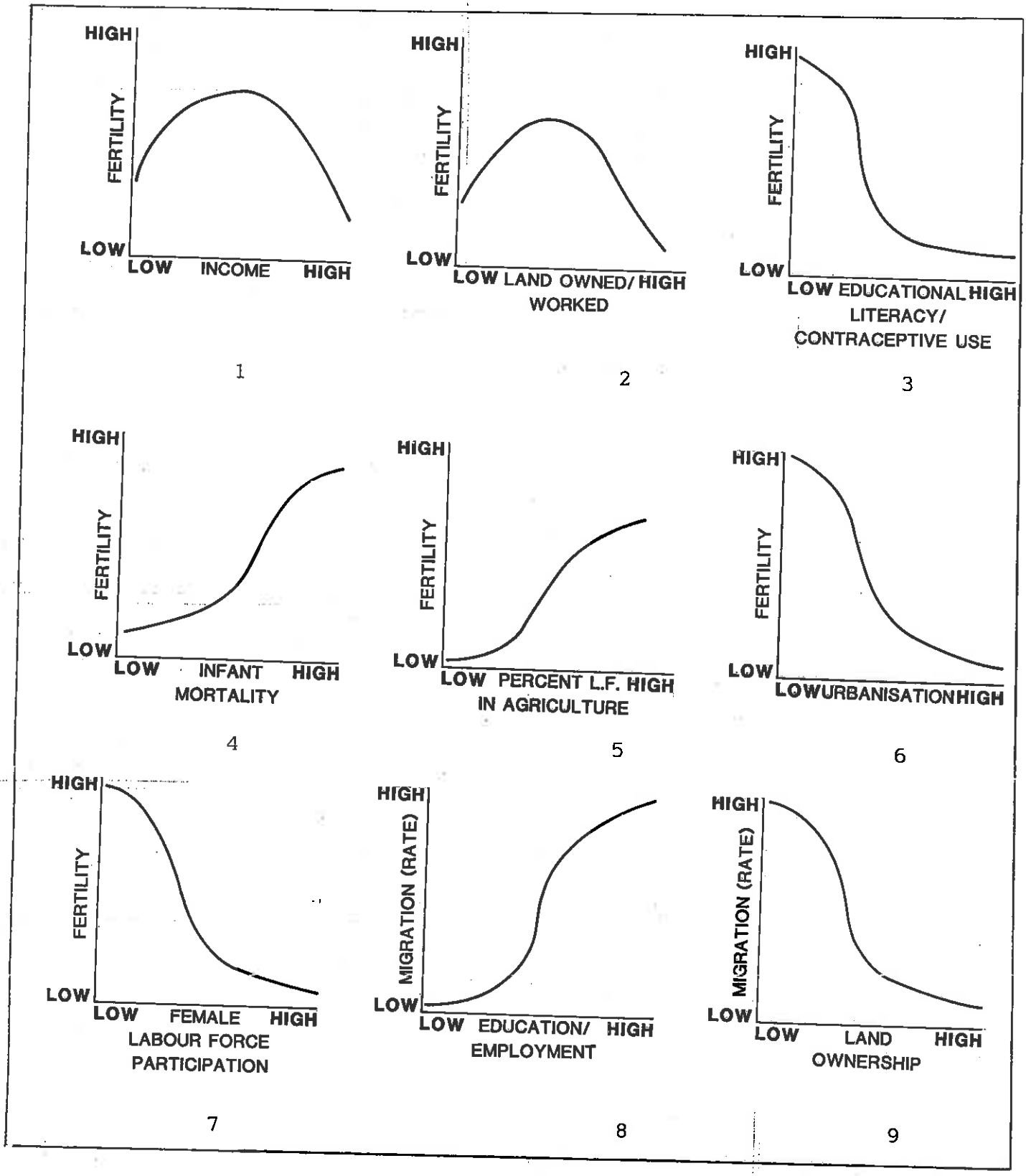
Isserman (1985) asserts that this is because the indirect effects are not considered in most specifications. Increased income induces a lot of social changes which are not always taken cognizance of in most theoretical specifications. For example, rising income is related to rising literacy levels which it influences positively as parents afford to send more of their children to school. This raises the opportunity cost of the children by decreasing their contribution to family income or at least postponing it to latter ages. Rosenzweig and Evenson (1977), investigate such a relationship for rural families in India. Malthus' postulate was also based on a constant price of children. Becker argues that this assumption is unrealistic as the price of children rises with rising income simply because parents begin to demand high quality children i.e. better educated, better fed, and better clothed. Thus the price of bring up children is dynamic, responding to changes in social and economic conditions. McInnis (1977) argues that children formulate their desired family size whilst still living with their parents. This causes them to desire a better life for their offspring than they had themselves. This raises the price of their children so that despite higher income than that of their parents they will "consume" less children.

The above arguments would seem to indicate strongly that the relationship is non-linear (See panel of diagrams dealing with fertility and socio-economic development). Fig. 1 tries to illustrate how the non-linearity operates. With rising incomes, fertility initially rises as parents afford to consume more children as well as in conjuction with other improvements associated with the rise in their living standards, e.g. health and education. A point is then reached where the improving style and standard of living force parents to demand more high quality children leading to a fall in the overall numbers of children produced. In other words, high quality children do not go hand in hand with a high degree of child production or consumption by parents. The effect is enhanced as already pointed out by other socio-economic factors such as rising literacy and health standards, to mention only a few.

No matter how income and fertility are related in terms of arithmetic signs, it is significant to note that they relationship has a profound effect on overall levels of fertility. Maybe Isserman's suggestion that a model that allows the sign of the relationship to vary with varying social and economic conditions needs to be given further careful thought.

4.1.2 Fertility and land

The relationship between land and fertility is assumed to be positive. This stems from the factor mentioned above under income i.e. children are both productive and consumptive goods in rural areas and



The relationship between demographic and socio-economic variables

their price is lower than that of urban areas. Several issues will be discussed that affect the land-fertility relationship. These include the measurement of land, land tenure, land size and inheritance structures.

An issue that causes controversy is how to measure land. Land is a multi-faceted variable with both economic and social meanings. The way in which it is measured has a direct bearing on the sign of the regression equations. The facet of land which need to be measured is that of size of landholding or at least the land to which an individual family has access. Schutzer et al (1983) argue that the proportion of land to which the family has access has an important bearing on fertility. The argument is based on the fact that the land is a proxy for income and decisions on the number of children to have will depend on the land the household has access to. They define three types of land users. The first is the farm labourer who only gets a labour return from working the land. The second is the tenant who gets a management and a labour return from the land. The third is the land owner who gets both the management and labour return plus an equity return. Based upon these forms of return from the land and the access they imply, Schutzer et al argue that fertility will vary among the three groups identified. They hypothesize that because of the equity return from the land, land owners might be able to substitute children for land.

The second hypothesis is termed the land - security hypothesis. The argument here is that farming households with insecure land tenure or with very little land will tend to have large families as a means of ensuring support in old age. Land owners will also have large families because they need them to inherit and work the land. But, the large land owner can afford smaller families because of the equity return he can get from the land. This equity return is more sure and more secure than that to be got from children. Thus, while the family of the land owner is on average smaller than that of the the peasants, it is still larger than that of the urban family. In other words, it seems to compromise between the two hypotheses as it tries to balance security in old age with equity returns from the land.

Both hypothesis have been questioned. Cain (1985) provides the most critical questioning. His first query is on the conclusions reached from a limited number of observations and regressions. He believes that these might have failed to capture all the relationships inherent in such a difficult concept as land. He further questions the use of the proportion of land worked as against land owned in the regressions and points out that the concept is poorly defined. This concept is important because it is the variable that measures land and is therefore likely to influence the direction and the magnitude of the relationship.

A further criticism of the theories stem from the fact that the land security hypothesis is founded on rather tenuous grounds. The uncertainity of land tenure in most developing countries makes children a more secure form of investment than land. This is enhanced in situations where land reform policies are rampant. For children to be substituted by land one must assume that land owners can forecast stable land tenure

systems for the duration of they working life and into retirement. This is probably not possible to do because, like anyone else, land owners operate in situations of incomplete and distorted information. Cain concludes that any observed negative relationship between land and fertility must derive from some as yet unspecified variable whose influence is captured partially by the land ownership variable.

Schutzer et al (1983) and Stokes et al (1986) admit that the association between land and fertility operates indirectly through other factors. Schooling is one such factor which might also be responsible for the observed negative association between fertility and land (Rosenzweig and Evenson 1977). The ignored institutional settings might act further to confuse the land - fertility relationship. Both Cain (1985, 1986) and the United Nations (1981) argue that the institutional settings are important for understanding the demographic - socio-economic relationship. For example, Schutzer et al choose to ignore the role of polygamy within rural Egypt. This might be due to the fact that it is not easy to regress or that they do not view it as significant. Yet, it must determine the size of the land worked in relation to the land owned and if parents want to pass on land as an inheritance to their children, the total amount of land owned might depend on whether they are polygamous or not.

The lower cost of children in rural areas has also created some controversy. Schutzer et al (1983) and Rosenzweig and Evenson (1977) argue that policies that are designed to give more land to the peasants as well as increase ownership might prove detrimental to the goal of lowering fertility and increasing school enrolments. This follows from the land - labour demand hypothesis as well as the established fact that schooling lowers fertility by increasing the cost of children. Because the peasant household would like to maximise the income it realises from the land, it would demand more children and that those children work more regularly on the farm from an early age. Cain (1986) believes these to be erroneous conclusions. Children on the farm are not always engaged in farming per se. They undertake other work. For example, the sale of certain products at the market might be more compatible with schooling. Further, the trend towards universal education will exert pressure on parents to send they children to school. This means that parents are not acting in a totally independent way. They are constrained by the institutional settings within which they operate. The low cost argument would seem to support the view that the **status quo** is better than any change which might bring in the improvement of the life styles of rural populations and in this sense seems to be a reactionary view of land reform and developments.

Merrick (1978) reached another interesting conclusion with regards to fertility and the length of settlement in an area. He argues that areas of longer settlement exhibit lower fertility than those of latter settlement or what he terms frontier regions. The differentiation is a result of land scarcity and higher population densities in the regions of longer settlement when compared to frontier ones. McInnis(1977) working on 19th century fertility differentials in Canada notes a similar relationship. He also argues for the land - labour demand relationship. Thus land availability is positively related to fertility. As Schutzer et

al (1983) and Rosenzweig and Evenson (1977) have claimed, this finding has an important policy element for land reform programmes though their recommendations for the status quo are not acceptable.

Two further factors deserve a brief mention. The first has to do with the timing of demographic and economic events. For example, which takes place first, marriage or land acquisition? The answer to this question determines the direction of the relationship. If land is acquired first, then children might be produced to meet the needs for labour by the household. If marriage comes first, then the land acquired might be tailored to meet the desired family size. Thus Stokes et al (1986) and Cain (1986) argument for a two way relationship between land and fertility might be valid in some respects.

The second point is related to the question of inheritance already alluded to above. The way the land is inherited determines fertility in both a direct and indirect way. For example, if each male offspring is assured of inheriting some land then the family size might be tailored to meet the perceived land to be inherited. If only one son inherits the land then the others must be forced to migrate either into frontier regions or urban areas thus influencing the fertility of these regions. Van de Walle (1979) notes an interesting case of inheritance, migration and fertility in Ticino. Because all male offspring were assured of land in Ticino, land fragmentation occurred. The result was migration by the male population to work in other regions. The effect this had on fertility was to lower it as the females delayed their age at first union due to a scarcity of male partners. The indirect effects of an inheritance system can be seen operating to reduce the fertility of a region.

The arguments outlined above seem to imply a non-linear relationship between land (however measured) and fertility. Fig. 2 illustrates graphically this non-linearity argument. Note that high ratios of land ownd are associated with lower family sizes. It is probably in the medium sizes of land owned that the largest family sizes occur, i.e. they find the compromise between security and equity more profitable. Those with very little land will also have fewer children as they cannot support them adequately. The fact that the children of the landless might be more than those of the landowners might be a reflection of the land-security hypothesis in operation.

4.1.3 Fertility, education and contraceptive use

Education and contraceptive use have a negative influence on fertility. It is useful to discuss them together as they are related to each other. Education influences the use of contraceptives. For example, the Zimbabwe National Reproductive Survey carried out in 1984 found that educated women had more knowledge about contraceptives and also had a higher usage rate when compared to their less educated counterparts (ZNFPC 1985). The relationship is illustrated in Fig. 3.

Two components are identified as operating on the education and

contraceptive variables. The first is the general literacy of the population and the second and perhaps more important is the educational attainment of women. The latter shall be discussed first.

Rosenzweig and Evenson (1977) argue for the greater effect of female educational attainment on fertility than that of males in rural India. the effect is achieved through delayed marriage while the women complete school as well as through the use of family planning techniques which are more effective than that of their counterparts. Education changes attitudes torward desired family sizes and lead women to demand higher quality children. In Becker's terms, women with education have high aspirations for they children and will therefore substitute child quality for child quantity in an effort to fulfill those aspirations for their children.

Hicks (1974) argues that the education of women opens up employment opportunities for them. This has the effect of increasing the opportunity cost of the women's time in the home. The cost of time spent on such a labour intensive activity as child rearing is raised at a time when the woman's productive capability outside the home is being increased. Added to this is the increased awareness of new consumption goods vis a vis children. The effective assimilation and use of family planning measures means that the woman can fulfill her birth expectations. The net effect of the woman's educational attainment is to reduce the number of children desired and hence the overall fertility levels of the region or nation.

Merrick sees the role of literacy in terms of its influence on health and sanitation of the population. With increased literacy comes better health delivery systems which ensure the survival of infants. As child survival increases, fertility is noted to decline, an effect captured in the demographic transition theory and model. Thus literacy strengthens the negative effect of child survival on fertility.

Education or literacy reduces the demand for children by reducing their role as productive agents contributing to family income and at the same time increasing the cost of their upbring. They therefore become an expensive consumption good which can now be consumed as a matter of choice (Rosenzweig and Evenson 1977; Cochrane 1975). Cochrane notes that the prevalence of contraceptive devices makes it possible to separate sexual activity from the decision to have a child. The result is to give couples greater freedom in choosing to consume children or not. This works to strengthen the negative impact of education on fertility.

4.1.4 Fertility and infant mortality

As already referred to above and illustrated in Fig. 4, child survival is negatively correlated with fertility. Merrick (1978) found that increased child survival reduces the number of births required to fulfill the desired family size. In low infant survival regimes, a certain number of excess births is required to fulfill desired birth expectations. The number of excess birth necessary under a given low infant survival regime has not been determined. However, the existence of

the excess births is seen in the initial rise in fertility rates as child survival chances increase. As soon as households realise that it is no longer necessary to produce the excess births to meet their desired family targets, the fertility rates begin to decline as well.

Merrick uses child survival as his variable in rural Brazil. Other reseachers use the variable infant mortality. It is the opposite of Merrick's child survival and is therefore positively correlated with fertility. In high infant mortality regimes, fertility will be high as well. Again, the demographic transition theory captures this relationship quite well (Hicks 1974; Seiver 1975; Hazledine and Moreland 1977).

Hicks argues for a less straightforward relationship between infant mortality and fertility. He believes that the effects might be in either direction. For example, by reducing periods of lactation and postpartum amenorrhea, which would delay conception, infant mortality can have a positive effect on fertility. On the other hand, the trauma of losing a child might cause couples to delay the next birth thus acting to reduce fertility. He notes that in France fertility seems to have declined ahead of mortality which seem to support his contention for a two way effect of infant mortality on fertility. Again, as Fig. 4 illustrates, the relationship is far from being merely linear. It is influenced directly and indirectly by socio-economic changes that improve the infant's survival chances, as pointed out below.

Infant mortality is a useful proxy for health and sanitation development and improvement. It effectively reflects the progress made in this field and hence its inclusion as both a demographic and a social factor of development. For example Hazledine and Moreland (1977) found for Asian countries a positive relationship between infant mortality and fertility. The magnitude of the relationship was also related to the availability and access to health services of the countries concerned. Their conclusion is that policies which act to spread better health and sanitation conditions for the largest section of the population will have a greater chance of influencing fertility especially when combined with developments in other social and economic spheres.

4.1.5 Fertility, urbanisation and labour force status

Urbanisation and labour force status have a significant influence on fertility. Labour force status can be discussed under its three major components which are also related to urbanisation. These are: percent of labour force in agriculture, female labour force participation and rural nonfarm activities. These will be discussed in turn.

4.1.5.1 Percent of labour force in agriculture and urbanisation

The percent of the labour force in agriculture has a positive effect on fertility. This stems from the land - labour hypothesis of Schutzer et al (1983). As the labour force composition shifts in favour of employment outside agriculture so fertility declines. One of the implicit assumptions of demographic transition theory is that industrialisation and

urbanisation will induce changes in the fertility structure of the population. Seiver (1975) examines the economic development of Mexico from 1950 to 1970. He noted that economic development including declining shares of the labour force in agriculture have taken place without the accompanying falls in fertility as postulated by demographic transition model. He concludes quite erroneously that the demographic transition is not taking place within Mexico. It is an erroneous conclusion because the transition starts when mortality begins to fall and fertility either rises or remains constant for a time. In actual fact, Seiver's findings support the fact that declining shares of the population in the labour force engaged in agriculture enduce falls in fertility as he notes for the province of Mexico City. All that has been happening is that national data has masked falls in fertility in more urbanised regions where the percent of the population in agriculture has declined below that in rural areas.

Phillips et al (1969) and Schutzer et al (1983) find a positive relationship between fertility and percent of the labour force in agriculture. This caused the latter to worry about the effects, on fertility, of land reforms that give people more land as discussed above. Hicks (1974) also found for Mexico a positive relationship between percent of labour force in agriculture and fertility. It can therefore be concluded that urbanisation will affect fertility in a negative way while the percent of the labour force in agriculture acts in the reverse direction.

Urbanisation is a difficult concept to deal with. Its effects are more pervasive than the area identified as urban. Urban values are transmitted into rural communities through the mass media and the return migrants. These indirect effects or influences of urbanisation might mean that the decline in fertility might be greater than the percent of the population living in urban centres suggests. Maybe a measure of rural families with a radio or who receive a newspaper weekly might help in establishing the indirect effects of urbanisation on fertility.

Figs 5 and 6 illustrate the above discussion. Like the previous graphs linking demographic and development indicators, these relationships are non-linear. Their effects reflect progress in the socio-economic field over time. Here the progress is instrumental in changing attitudes towards agricultural employment and migration into towns in search of more higher paying jobs.

4.1.5.2 Female labour force participation.

Female labour force participation is strongly related to educational attainment and income and has a strong and negative influence on fertility (Fig 7). Becker's (1960) economic theory of fertility is used to explain why female labour force participation should have such a negative impact on fertility i.e. through the use of relative prices and opportunity costs. Cochrane (1975) notes the higher opportunity costs involved in rearing children where the wife is working and children are taken as consumption goods. Phillips et al (1969) note that the direct and

indirect cost of raising children are higher for urban than for rural families because of the loss of wife's income these entail. Sandell (1977) proposes an economic model of migration decision processes which focuses on the contribution of the female to family income. She also notes that as the level of female participation in the labour force increases, there is an accompanying increase in the rise of single parent families. This further depresses fertility.

Van de Walle (1979) finds a negative relationship for female participation in the labour force in the rural area of Ticino. Because of the high rates of male outmigration, wives were forced to manage and work the farm. This resulted in lower fertility for them when compared with others who worked less on the farm. Redwood (1983) finds a similar relationship for farming communities in the USA. Thus, female labour force participation has a negative impact on fertility in both urban and rural settings though these are higher under the former than the latter.

4.1.5.3 Rural nonfarm activities

The relationship between rural nonfarm activities and fertility is an ambiguous one at the best of times. It has not been well investigated despite the fact that it is a significant sector in developing countries. Phillips et al (1969) argue for intermediate price and opportunity costs for children in rural nonfarm households. The desired family size will also be intermediate. However, this argument is not fully developed and they dwell more on the normal urban and rural division.

Brown and Schneider-Sliwa (1986) argue that rural nonfarm activities are labour intensive. They also think that they have a significant effect on fertility but do not examine the direction of the effect. From their claim of the labour intensive nature of rural nonfarm activities they would seem to have a positive effect on fertility though probably still lower than that of the farm communities.

In summary then, fertility is related to various socioeconomic factors in many ways. Some of the interactions are positive, others are negative and yet others are two way. One thing is clear though, the relationships are not straightforward. They are complex, multi-causal, correlated with each other and often subject to lags.

4.2 Migration and socioeconomic development

Migration is related to social and economic development. The direction and strength of the interaction depend on various factors. In this section, these are examined. The first subsection looks briefly at some migration theories and types. The next subsections then examine migration in relation to the factors of development with which it interacts as well as influences.

4.2.1 Migration theory and types

In demographic-economic models migration is viewed as a response to

differing economic conditions (Todaro 1969). Since differing economic conditions evolve over a period of time, migration patterns and types will reflect in a large measure that evolution. This led Adepoju (1980), Mitchell (1969) and Kasanga and Avis (1986) to recognise migration types related to the period of economic development within subSaharan Africa. For example, Adepoju notes that target or very short term migration was common during the colonial era. Kasanga and Avis take other researchers to task for still using target migration in their hypothesis as they feel that this has changed over the years with the changes in social, economic and political conditions. Target migration is responsible for the circular nature of migration in Africa and other developing countries though this is increasingly being replaced by other forms of more permanent migration (Mitchell 1969). Other types of migration include resettlement, the contract labour system as in Southern Africa and long term permanent migration that shifts the balance of population slowly towards urban areas. Lastly, there is for developing and some developed countries return migration at retirement or when a job is lost (Adepoju 1980).

Mabogunje (1972) presents a different view of population movements in the context of sub-Saharan Africa. Studying movements primarily in West Africa, but his arguments are applicable in most parts of Africa, he decides to term population movements, mobility, instead of migration. He justifies it on the grounds that migration , as normally used is a narrow and restrictive term, one that does not encompass fully the complex nature of regional population movements in Africa. This is because the normal use of the term migration implies a permanent change of residence and probably, though not always, long distances. Mobility as used by Mabogunje (1972) simply refers or implies "the ability to move" or "the capacity to change place" (p. 15). This takes care of some of the arguments raised in the previous paragraphs.

Mabogunje's typology of mobility is broadly divideds into two groups. The first group involves non-economic movements such as religious pilgrimages or refugees fleeing some form of political persecution. In terms of Africa, these (political movements) arise from ethnic conflict and friction. The second group is economic and encompasses such diverse movements as pastoralism, which are attuned to the changes in weather and do not involve permanent changes of residence, through to more sophisticated inter-city movements in search for better employment opportunities. The latter are a response to differential wage as well as job opportunities whilst the former were a response to seasonal weather variations.

Mabogunje's typology includes the types of migration discussed in the paragraphs above. Its advantage over the others is its explicit recognition of the complex nature of African regional movements which are dependent on a host of interrelated factors, social, economic, political, cultural and even physical/environmental. In providing such a typology, Mabogunje enables researchers to escape the narrow confines of the traditional definitions of population movements contained in the term migration. However, the rest of the paper deals with migration in its

conventional sense as it is in this way that it is being used in the literature under review.

The other theory of migration found in spatial demography is that migration is life course related and therefore it is age and sex selective. Within development and population models it is found to be education selective as well. Thus, Kasanga and Avis (1986) note that for Ghana the educated in the 19 to 29 years age range have a high propensity to migrate compared to their counterparts in the same age range but without education. The next subsection examines the role of education and employment on migration.

4.2.2 Migration, education and employment

The urban bias of employment opportunities in most developing nations have made migration to be positively related to education and employment opportunity as illustrated in Fig. 8. Kasanga and Avis (1986) note a concentration of post secondary educational institutions and job opportunities in the few urban centres of Ghana. They argue that migration cannot be stemmed until this urban bias is changed. Ridell (1984) and Mudhani and Ridell (1982) note a similar situation with regards to Zimbabwe. Adepoju (1980) notes the reinforcing influence of post independence development policies that promoted industrialisation and urbanisation at the expense of rural development. These led to increased rural to urban migration by the young and educated which did not help the development of the rural areas.

Todaro (1969) developed a theory of migration decisions based on conditions at the destination regions. Before then most migration theory examined origin conditions in migration decisions though they acknowledged the importance of destination conditions too. Isserman (1985) sees the reason for concentrating on origins as conditioned by the difficulties of defining a destination population at risk, especially in multi-regional analysis of migration. Todaro's theory makes the decision to migrate depend upon the migrant's information about employment opportunities at the destination plus the economic conditions at the origin less the cost of migrating. The probability of acquiring employment at the destination is also included in his theory unlike in other analysis where all migrants seeking employment are assumed to be absorbed into gainful employment. As a result, Todaro recognises the importance of the informal sector in holding migrants and providing them with some income until they attain more gainful and probably higher paying employment in the formal sector. Education is excluded from Todaro's model but it can be included as a means of differentiating between the probabilities of gaining employment by labour force status. Thus, educated people might spend less time trying to find gainful employment than those with less education.

The major issue is how to measure the probability of gaining employment. Todaro suggests the use of official unemployment figures and the number of new jobs being created as reflected in advertisements in newspapers. These are often not very reliable. The unreliability arises from the fact that not every vacancy is advertised nor is every unemployed

member registered with officials. In fact, in most developing countries, there is no official register of the unemployed. Often the size of the unemployed is estimated from statistics on the size of the school leavers and the amount of known jobs available and to be created in official plans. Furthermore, official definitions of unemployed are tailored to suit the needs of the politicians in power, as has been witnessed in the United Kingdom between 1979 and 1987. In most cases, these figures, tampered with by statisticians under political pressure, are likely to reflect lower unemployment figures than the reality.

The other problem inherent in the unemployment measure is that of the inactive members of the labour force who might otherwise become active if economic conditions improve (Isserman 1985; Plane and Rogerson 1985; Todaro 1969). Todaro demonstrates this factor through an experiment that took place in Kenya in the early sixties. The government asked employers to take on extra labour. In return, the government would not legislate for salary increases. The end result was greater migration into Nairobi and Mombasa which soon pushed the unemployment rate to levels higher than before the experiment. This also confirmed the fact that labour responds positively to the existence of job opportunities.

Whatever measure is used, migration remains high and positively related to economic conditions and education. Adepoju (1980) suggests a framework that includes conditions at the origin such as the lack of employment opportunities in the analysis of migration. Kasanga and Avis (1986) argue for development that will ensure a steady monthly income for the young if they are to stay within rural areas. Sandell (1977) also notes the role of female educational attainment and they probability of securing employment in household decisions to migrate. This factor should be included in the discounted present value and the discounted expected value of earning where the decision to migrate is being carried out by working spouses.

4.2.3 Migration and land

Merrick (1978) discussed the effect of land scarcity on migration within rural communities (Fig 9). The regions of longer settlement exhibit lower fertility partly through the migration of young people into settlement frontiers. This effect is more pronounced where legislation prevents the inheritance of land by more than one son. Hicks (1974) and Selver (1975) found that for Mexico, land reform which prevented the further fragmentation of land holdings meant that the excess population migrated into official resettlement areas or into urban areas. Van de Walle has already been cited with regards to Ticino and the effect of inheritance laws that led to the fragmentation of land resulting in high rates of outmigration by males. The second fact about this migration is that it had a strong return component due to the land ownership the inheritance process entailed.

Adepoju (1980) argues for an analysis of migration that includes such variables as land scarcity measured by population density, percent of land overfarmed, soil erosion and other environmental factors. Kasanga and

Avis (1986) highlight the fact that it is not employment per se that matters but the lack of a steady monthly income from the land. Land is always available for those who wish to work it but its size and productivity is such that it denies them a reliable income and hence the need to migrate. Bush and Cliffe (1984) argue that peasants with little land act to maximise their income by migrating for a time to work in urban areas within Zimbabwe. All this confirms the fact that migration and land scarcity are positively correlated.

Nonfarm activities are found to have a minor negative influence on migration. This is due to their labour intensive nature. Their need for labour means that they can offer altenative sources of livelihood to the rural population (Brown and Schneider-Sliwa 1986; Preston and Preston 1983). Brown and Schneider-Sliwa even argue that the growth of nonfarm activities might be able to attract frustrated jobseekers from urban areas into rural ones. Preston and Preston (1983) caution that nonfarm activities might be detrimental to rural development in general by reinforcing the idea that non-farm work is the only gainful form of employment. This might divert attention from the possibility of implementing agricultural reform and innovations within the community which might realise higher income for more people.

Briefly, migration has significant impacts on both the origin and destination areas in terms of social and economic development. Isserman points out that migration is considered as an investment in the regions with the highest potential for development by bringing to them the best in youth and brains. He ignores the reinforcing nature of the development process and the fact that the regions losing their populations are affected adversely by migration.

From the survey of the world at large, let's now turn to the examination of one specific country, Zimbabwe, as the literature review is to enable us to study the variables discussed above in this country. We shall review the main literature on Zimbabwe to see what its main concerns and issues are. We shall also touch brielfy on the current demographic status within this country as background to further work in this field.

5. LITERATURE ON ZIMBABWE

5.1 Background

If one was asked to summarize in a few words the main concern of research literature on Zimbabwe, the simplest answer to give would be **land.** Land is at the heart of most issues, be their historical, political, social or economic. The recent history of Zimbabwe is written in terms of land alienation by whites from blacks and its gradual recovery since independence in 1980. The impoverishment of the majority of black peasants is seen to stem from the loss of their productive land and to their being confined in the less fertile regions of the country. Discussions of population and development cannot escape the issue of land.

The end result of this, is that research discussion on development has tended towards the use of dependency theories to explain the pace of social and economic development. In terms of Zimbabwe, this is best expressed in terms of dualism or core-periphery relationships. This is due to the fact that land alienation created what one could term 'two worlds'. One was the traditional society that existed before the advent of the colonial period whilst the other was that introduced by the colonialists (Mitchell 1969).

The 'traditional sector' of the economy is contained in what are termed communal areas. The term 'communal area' defines the type of land tenure found in these areas. Cultivated land is held by households or families but it does not belong to them. They only have the right to cultivate it, as they have the right to graze cattle on the communal grazing areas. All land is held by the chief in perpetuity for the tribe or nation. During colonial times this right passed onto the district commissioners (though at various times these rights were restored in reduced form to the chiefs). The present government has stripped chiefs of their traditional powers or the ones they acquired under the Smith regime (1964-1979) and given them to district administrators. The communal areas contain by far the largest proportion of the population (57%, CSO 1985a). For both demographic and development purposes, what happens in the communal areas has a great influence on what goes on in the rest of the nation. It is not suprising therefore to find that most research work looks at the relationship between the communal lands and the rest of the nation.

The 'modern sector' of the economy includes all commercial farming areas, i.e. both small- and large-scale, mining and urban areas. Also included are other state lands like forests, national parks, tourist areas and state lands held for future release as the nation needs it. The major distinguishing facet of the modern sector is that it is a cash economy as opposed to the traditional sector which is seen as a subsistence economy, though by now the traditional economy exists in a highly modified form. The modern sector contains all the industrial development and has determined the spatial distribution of both economic and social infrastructure. This has given rise to what is termed as 'axial development', where all development has taken place along the lines of

rail; the rail being the major link between the urban areas (See map). All weather surfaced roads also show a bias towards urban development and serve to reinforce axial development. An examination of a road and rail map of the country is also an examination of the areas in which the modern economy predominates. The areas in-between which include all rural areas (both communal and commercial) show up as areas with poor communication links though on a comparative basis the large-scale commercial farming areas come off better than the communal and small-scale commercial ones.

One notable feature of the modern urban economy is the growth of what is termed as the 'informal sector'. In western literature the informal sector is known as the 'black economy'. The informal sector is to the urban economy what the traditional sector is to the commercial farming sector. However, after asserting this, it is important to note that some informal sector activities have both a rural and urban compoment, i.e. they are produced in rural areas and sold in urban areas or vice versa. Thus the two sectors are not necessarily in competition but are complementary and mutual supporting.

The growth of the informal sector within the urban areas reflects on two aspects of development and population. The first is the inability of the modern economy to provide full employment to the majority of job seekers, especially women. The second is the continued rural to urban migration which ensures that there is no shortage of job-seekers and, when the jobs cannot be found in the relevant section of the economy, these join the informal sector (Todaro 1969). It is also an absorption ground for those laid off during periods of contraction in the modern economy. It seems to operate as a form of social security which is not financed by the state or the firms laying off workers as there is no redundancy pay. It also serves, together with the communal areas, as a reserve for cheap labour which also ensures that firms pay low wages to the workers. The two sectors, i.e. the communal and informal, would seem to ensure the continued operation and existence, of the migrant labour system at varying levels of intensity for the foreseeable future.

The foregoing has been a brief attempt to provide some background to the framework within which most research work on Zimbabwe has been conducted. The analysis of population and economic development can be done in two ways. One is to divide the nation into urban and rural components. The other is to recognise the subdivisions of 'modern industrial', 'informal', 'commercial farming' and 'communal'. These divisions emphasize the dualistic aspects of the economic development of the country though we must emphasize the interconnectedness of these sectors rather than their separation. Let us now turn to an examination of the literature itself. There will be various critical comments on the literature. Most of the literature adopts a historical view point and most deals with the period after the attainment of national independence in April 1980.

5.2 Major themes of research

As already hinted at the major thread common to all research work is

related to land and to highlighting the dualistic aspects of national development. Interest ranges from examining aspects of land alienation like the Native Land Husbandry Act of 1951 (Duggan 1980) to trying to map out a development strategy for population and development (Kay 1976, 1980) to examining particular aspects of rural development like resettlement (Zinyama 1982, 1986; Simon 1985, 1986; Bush and Cliffe 1984), to reviewing progress in development since independence (Riddell 1984; Gordon 1984; Stoneman and Davies 1982).

In all these widely ranging approaches there are common facets. The first is that though most claim to examine regional development, the spatial scales remain relatively aggregated. This means that, the studies are examining development and population distribution within the broad categories of rural-urban divisions. In fact, most look at the communal lands versus the urban areas. There is no attempt to disaggregate to any finer scale. Both the communal lands, commercial farming lands and the urban areas are treated as though they contained homogeneous populations i.e. in terms of their socio-economic characteristics, and as though the rates of development were the same. Simon(1986) tries to examine regional inequalties, but his study is limited to the mere use or comparison of gross population totals for the provinces. Thus he shows that Matabeleland South has the smallest population and no significant urban centre while Mashonaland East, which contains the two major centres of Harare and Chitungwiza, has the largest population and the fastest growth rate. These figures are not used to analyse likely migration patterns though the article deals with migration. Nor is there an attempt to examine the fertility patterns implied though one of the major theme in all the Zimbabwe literature is that of the need to reduce the rate of population growth. At least Simon tries to take the province as the basis of analysis. All the other research workers use the communal-urban division and show little interest in whether there are variations from the national patterns they describe.

The likely explanation for the use of gross statistics is that the data have been rather sketchy thus far. Also very few of the researchers have any experience or interest in data estimation methods. The other explanation is that most of the data used in these studies derive from other work. Thus, Bush and Cliffe (1984) get some of their data from studies by Kay. Simon (1986) derives some of his own data from Kay as well as the work of Bush and Cliffe, for use in his critique though the bulk of it comes from official data sources. The end result of all this is that the studies are limited by the data collected in the study used. It is supplemented in some cases by data acquired from independent or official sources but there is no attempt to escape the confinement of the sources. In fact one could argue that there is a complacent acceptance of both the data and the research framework so far commonly used i.e. the rural versus urban framework and this acceptance has not led to an attempts at further spatial disaggregation even by such meso units as the province. Of course, some national statistics have, prior to 1983, been collected on a different basis than provinces. For example, educational statistics were collected using five educational regions instead of eight. This meant that the provinces of Mashonaland East, West, and Central, and

Matabeleland North and South were simply collapsed into Mashonaland and Matabeleland, respectively (See map). This would make disaggregation difficult though not impossible.

The links between population and development are also crudely examined in the literature. There is one assumption which is held as a universal constant: that population growth hinders economic development. While this might be true, there is no attempt to study the determinants of population growth and then see, even crudely, how they have affected economic development. As Moyo (1986) points out, the remedy suggested, that of birth control, will not bring about any significant gains in the economic sphere until certain structural changes have been effected in both the economic and social arenas. Kay (1976, 1980) quotes such high crude birth rate figures such as 55 per thousand or 52 per thousand in an attempt to show the need for a national policy on population. His estimates came from the World Bank (CSO 1985a). In fact most of Kay's estimates are biased in a manner that tends to support his strong views on what should be done to help the African population which he regards as incapable of pulling itself out of its poverty. Other researchers too do not examine the determinants of population growth and its links to the economic development of the country. For example, no attempt is made to give an explanation of how the continued overcrowding in the communal lands is affecting the fertility patterns of these areas. Even when it is acknowledged that there is a lot of outmigration from the rural or communal areas to urban areas, the effect of this outmigration are not fully explored. For example, if outmigration from communal areas is as high as it is claimed to be and involves the population in the 19 to 29 age ranges, then one would expect that this fact has a great deal of implications for the future development of fertility patterns in the country.

The accepted fact of a dual economic structure for the country is evident in most of the literature as well. Simon (1986) calls it the inherited problem of a well developed urban core and an underdeveloped periphery. The challenge facing planners in the country is to reduce or wipe out the inequalities created by this inherited structure of colonial development. Moyo (1986) argues that we need to end this structural inheritance more than we need to have a well defined national population policy. He feels that national resources could be better spent in trying to bring about rural development that would reduce or eliminate the inherited inequalities. Of course, this suggested course of action by Moyo is not easy to implement and as he states, the planners favour the family planning option because it is easier to implement and has less political issues involved. Also aid for developing nation has become increasingly tied to having a national population policy.

Bush and Cliffe (1984), Simon (1985,1986), Riddell (1984), Kay (1980), Zinyama (1982,1986), Kinsey (1982) and Cheater (1982) have all examined the various routes that Zimbabwe can follow to achieve a more equitable distribution of resources within the country. Of these resettlement has had the greatest discussion. Tied to resettlement has been the question of ending the migrant labour system. Resettlement is an attempt to

redress the imbalance in both population distribution as well as economic development. Moving people from the overcrowded communal lands will achieve a more even distribution of the national population. It will also relieve population pressure on the communal lands and enable those who remain in them to have more land on which to cultivate. Those who move to the resettlement areas will have on average some five hectares of arable land to till. The hoped for result is that the communal farmers will be able to derive some income from the land and therefore to improve their standard of living. The target income for the resettlement farmers is about Z$450 per annum (Kinsey 1982). With the extension of credit facilities to the communal farmers and the stepping up of extension work, it is hoped that the income of the rural areas will be raised sufficiently to reduce the flow of migrants into the urban areas. However, certain gaps remain in this resettlement strategy. First of all, most resettlement schemes are targeted at families. Most of the population that is highly mobile is not married (i.e. 19-29 years of age). In which case resettlement alone will not reduce the migrant flows to urban areas. There is no clear cut policy as to what actually happens to the land left behind by the population moved for resettlement (Zinyama 1986). Researchers only assume that it is taken over by those who remain behind. Also the selection criterion for resettlement (e.g. that the family should be landless) seems to cast some doubt on the ability of such families attaining the production targets forecast for them (Bush & Cliffe 1984; Simon 1985,1986; Riddell 1984).

The second development strategy which has attracted some attention is that of 'growth centres'. Sibanda (1985) discusses some of the implications of this strategy. The main thinking behind the growth centre strategy is that of reducing the flow of migrants to urban centres by providing a number of nonfarm jobs within selected rural centres. There is a hierarchy of such centres as some of them are there to provide services while others have small industrial projects within them. For example, rural service centres provide collection points for the agricultural produce of the rural populace and might occasionally be serviced by a mobile bank and post office. This makes it easier for rural people in these areas to sell their produce without travelling long distances to the nearest urban centre. The various depots mantained by the agricultural boards provide some nonfarm employment for some of the members of the area. These jobs might not exceed 200 to 250 but they are a significant addition of cash flows into the rural economy. It is hoped that over time forward and backward linkages will develop between these centres and the surrounding areas and urban centres as well. The proper growth centre has some industrial project or firm in it. For example, it might have a cotton ginnery, if the hinterland grows cotton. It might also boast of a bakery, brewery and spinning or clothmaking enterprises. Again, the hope is that the growth centre will take-off and provide a number of permanent jobs for the rural population as well as a market for their produce like milk and vegetables (Hanratty & Heath 1984; Sibanda 1985).

In discussing several issues above, mention has been made of the migration question. The literature leaves one in no doubt that Zimbabwe

is a highly mobile or migratory society. This migration is dominated by males, again, as a result of colonial development which introduced influx controls into urban areas. Cheater(1982) notes the fact that in one study area more than 50% of all household heads were absent. Mutizwa-Mangiza(1986) works out the differences in the urban and rural growth rates from the 1982 population census and ends up with an annual urban net inmigration rate of 2.3%. This would seem to imply that the urban population is at present growing at a faster rate than the rural population mainly because of inmigration from rural areas. The 1982 population census shows that in general there was a loss of population from most of the rural districts to urban areas (CSO 1985a). This implies that the population is still highly migratory. It is also still a migrant labour type of migration as the timing of the population censuses show. The 1962 and 1969 censuses were taken during the harvest season (April-May) and as a result tended to under-enumerate the urban African population as shown by post-enumeration surveys. The under-enumeration was more enhanced for women than males because most of the women are involved in the harvest operation. The 1982 census was taken in the post harvest season (August) and might have under-enumerated the size of the rural population especially because of a combination of drought in some parts of the country and insecurity in the two Matabeleland provinces (CSO 1984). But, all this said, the population still remains highly migratory especially in the young adult age ranges.

The implications of this migration are examined in some of the literature. The main problem envisaged is that of job creation. This is especially so in an era of contracting employment in the formal sector of the economy. One major effect of the provision of minimum wages has been to increase the rate of flow of migrants from rural to urban areas. At the same time, certain firms have cut back on the size of the labour force through capital intensive technology or have merely relocated across the border in Botswana where the absence of minimum labour regulations makes production costs low and profits very high. So far there has been no empirical work on some of the implications discussed above. They are arrived at by inference i.e. from reading literature or theories on migratin and development. This explains why there have been no serious attempts to study the determinants of population and economic development as there is an assumption that they are similar to other developing nations and therefore the theories that hold good in them hold good for Zimbabwe as well.

An area that is presently emerging which is linked to migration and employment is the role of women. Kinsey (1982) and Simon (1985) try to review what the role of women should be in economic development. Kinsey notes that women are not explicitily considered in most development plans, except when they are widows. For people interested in some form of planned population growth, this is a strange or unfortunate omission. The 1982 census shows that the participation rate for women in the labour force varies between 16% excluding farming and 19% when it is included. The census report (CSO 1985a) forecasts that with greater access to education the participation rates for women will increase and this will have a direct bearing on the fertility patterns of the future as well as

migration ones. The report also points out that women are likely to be laid off first during periods of economic recession as happened between 1982 and 1984 (CSO 1985a). The role of women is an area to explore especially with fertility and migration in mind.

To summarize, the major research framework for Zimbabwe has been provided by the colonial history of the country. This has introduced dualistic aspects into the development process which has also determined population distribution and the responses of various governments to the challenges of development. Highlighted in the research are such matters as population policy, resettlement schemes, growth centre strategies, migration and migrant labour systems, the role of women and the implications all these issues have for Zimbabwe's development prospects. Lacking is a detailed analysis of the underlying determinants of the population and development patterns examined. Also, the future effects of present population and development policies are not fully explored. Lacking too are meaningful attempts to disaggregate even to the level of provinces. The lack of disaggregation universalises problems especially of rural development and there is danger that the planners will attempt to provide universal solutions as well. These might fail to address adequately all the problems that exist in the various rural areas.

5.3 Current demographic levels in Zimbabwe

In this subsection, demographic trends are examined in more detail. The 1982 Census of population is used in this analysis of current demographic trends within Zimbabwe.

The 1982 Census provides the most comprehensive database on the current demographic experience of the country. It asked questions that enabled the direct measurement of fertility and migration. Mortality was measured indirectly due to the dearth of reliable statistics. Questions on fertility included children ever born, children surviving, year first child was born, age at first marriage, latest infant born and its current status i.e. living or dead and so on. Statistics on births have been collected through direct registration since 1980 though the Ministry of Health (1985) estimates that birth are under-registered by 25%. The census used birth registration in the previous year (1981) plus births registered in the first seven months and eighteen days of 1982 plus the census information to arrive at the current level of fertility. The CSO (1985a) claims that this reduced the level of error in the estimates.

5.3.1 Current fertility in Zimbabwe

The census yielded a crude birth rate of 39.5 per thousand. This compares most favourably with the 1981 CBR of 39.43 per thousand based on vital registration data. The closeness of the two results can be taken as a measure of the reliability of the data on births even with the added disadvantage of their being incomplete. Further proof of the reliability of the births data was provided by the National Household Capability Survey programme which was carried out in the communal lands of five of the eight provinces between 1983 and 1984. The CBR derived from these was

39.0 per thousand showing even lower fertility in the communal lands of the country than expected (CSO 1985a; Table VI.1, p. 132). The census and survey findings imply a decline in the CBR as the 1969 census put it at 48 per thousand. The United Nations 1980-1985 estimates put the CBR at 47.2 per thousand and that of the World Bank for 1978 was as high as 52/1000. These estimates are themselves by-products of population projections based on the 1969 Census and the 1979 estimates of world population. The Zimbabwe CBR was put at close to the average for Eastern African countries which was 47.9/1000 (CSO 1985a; Table VI.2, p. 134). The difference between the estimates and the direct measures based on the census of 1982 imply declines in fertility in the intercensal period. Similarly, the difference between the 1982 census and the survey finding imply that fertility is currently changing as well. In other words, the phenomenon to be study is not static or stable. This might indicate modifications to some of the demographic estimation techniques where these need to be applied.

The total fertility rate also indicates a general decline in the fertility. In 1969 the TFR was given on average as 7.0 children per woman. In 1982 this figure was found to be 5.6 (CSO 1985b, p. 16). The rate is expected to change further i.e. to trend downward with changes in education, literacy, contraceptive use and health.

5.3.2 Current mortality in Zimbabwe

Current mortality was estimated indirectly from the census data. This is a reflection of the current state of under-registration of deaths in the country as a whole. Estimates on infant mortality were arrived at using questions on children ever born and children surviving. The Brass as well as the Trussell technique of estimating adult mortality from orphanhood data were applied to estimates of adult mortality. Orphanhood data was illicited by asking questions on whether the biological parents of a given child were still alive.

Attempts were made to estimate infant mortality from vital registration data. The estimates obtained were unsatisfactory as they seemed to be too low for the current level of development within Zimbabwe. The registration data gave an infant mortality rate of 30 per thousand in 1981 and 26 per thousand in 1982, and for the average (1981-1982) the figure was 28/1000 (CSO 1985a; Table VII.1, p. 167). The census report did not accept these data as plausible. The data are consistent in two ways. First, they show the expected decline from 1981 to 1982, though this might only be because the 1982 data are incomplete. Secondly, male mortality is found to be higher than female mortality. For 1981-82, the male IMR is given as 32/1000 from these direct estimates while that of females is 24/1000.

With the direct estimate refusing to yield satisfactory results the indirect method was applied. As already mentioned above, this used questions on children ever born and children surviving to arrive at estimates of current infant mortality. The Brass and Trussell techniques were then used to estimate probably mortality levels from these data. The

estimated IMR from the indirect techniques was 83 per thousand. Males had higher mortality at 93 while females had a lower mortality at 73 per thousand. Compared with the 1969 it would seem that there has been a drop in infant mortality rates. The 1969 estimate was 101 per thousand for both sexes but this figure applied only to the African population (CSO 1985a, 1985b).

The crude death rate estimated from the orphanhood data seemed to be reasonable and consistent with the view that mortality is falling across the nation. In 1969 the CDR was estimated at 15 per thousand. The 1982 census produced estimates of 11.6 for males and 10.1 for females yielding an average of 10.8 for both sexes (CSO 1985a; Table VII.15, p. 185). The average of 10.8 was lower than the United Nations estimate for 1980-1985 which was 12.4/1000. This again is a result of the use of projections based on the 1969 census.

The data on mortality in Zimbabwe seem to be of reliable quality even given some of the problems of estimating it indirectly. It would seem that the exact level of mortality will be known when a more complete registration system for deaths exists. For the time being it will be necessary to use the data at hand improving upon it through the use of demographic estimation theory.

5.3.3 Internal migration

Through the use of questions on place-of-birth and place-of-residence at census time, the 1982 census was able to provide estimates of internal migration. This was found to be high and seemed to confirm the findings of several empirical studies (e.g. Cheater 1982; Mitchell 1969). The 1982 census gave an inter-provincial migration rate of 23.8%. This implied that at least one in every four persons had crossed a provincial boundary in the years since their birth (CSO 1985a). By its nature, this is not a very useful measure of current internal migration or mobility patterns or even levels. All that can be deduced is that there has been massive redistribution of population between the provinces but repeated moves and return migration are not captured or measured over time. Only life-time migration is being described though the data can be used to discuss this more comprehensively. With data from two censuses, it might be possible to derive an inter-censual measure or estimate of migration which might be more refined than that arrived at by examining only the life time migrations.

The figure appears to be too low given the fact that a census does not capture repeated moves or return migrants who are at their place of birth at census date. The de facto count might have included temporary visitors who at the time of the census were away from their place of usual residence which also happened to be their place of birth. The census report advises caution in the use of the inter-provincial migration rate. Though the figure might be on the low side it still throws some light on the possible levels of movement within the country, and a bit of light on the population redistribution process and the implications this might have for fertility and development patterns.

6.0 CONCLUDING REMARKS

The canvas on which the scene of population change and socio-economic development was being painted was a large one. It has covered so much ground that at times this article will not seem to hang together. Let it be said that the main concern was to capture as much as possible the multi-faceted nature of this field. It is with this in mind that so much literature was surveyed. Its analysis and treatment might not have been at all times deep or adequate but it is to be hoped that pointers have been established for future exploration.

To summarise then, there has been a growing recognition of the interrelationship between population change and socio-economic development. More and more, researchers and planners alike have come to the conclusion that for the successful execution or implementation of development plans, it is necessary to understand the relationship between population change and socio-economic development. While this has emerged as a desirable goal, it has often been found that the measurement or even the definitions of the variables involved is often very difficult. What is more, the relationships themselves are often non-linear as well as being subjected to time lags. This has to be taken into consideration when one comes to deal with specific countries like Zimbabwe. So far, researchers in this area within Zimbabwe, have not begun to grapple with the issues explored in the wider world context. However, they have identified important development issues and areas whose understanding can further be enhanced by exploration of the links between them and population. These must go beyond the mere prescription of birth control or family planning but must examine the socio-economic sphere with a view to recommending further radical changes. They must also aim to understand the whole nature of the linkages involved as a multi-pronged approach to development is most likely to succeed than a piece-meal one. It is therefore, in understanding current and past patterns of demographic change and socio-economic development that we can hope to come up with solutions that are likely to improve the lives of the majority of the population.

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