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Fertility Levels and Differentials in Informal Settlements in South Africa: Evidence from the 2001 South African Population Census.

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CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction.

Fertility decline in developing countries has its roots in the late 1950s .This decline is a result of decreasing desire for large families due to improved infant and child mortality, increasing modernization, and the increased ease of controlling fertility (Rutstein, 1998).Few number of studies have been done analysing fertility differentials and most of them emphasized the role of socio-economic status in fertility decline.

2.2. Fertility Decline in Developing Countries.

From 1950, many developing countries have experienced a transition to low fertility with a speed and magnitudes that far exceeds the early transition observed in European countries (United Nations, 2003). Fertility in most of developing countries has declined from more than 6 births per women in 1950s to fewer than 5 births per women in the early or mid-1990s (Bongaarts, 2005).

In Asian countries, rapid fertility decline has been observed under rapid economic growth. Fertility change in these countries happened against a background of faster socio-economic improvements, higher urbanisation, education and industrialisation. Fertility decline in Asian Moslem countries has been associated with a decrease in marital fertility among older women (Amin et al, 1994; Sathar, 1993). In Latin American countries, fertility decline started furthermore during a time of economic boom. Structural shifts from subsistence agriculture and non-wage labour to modern sector economy (Martime, 1995) eliminated the advantages of larger family in this part of the world. In Egypt as well as in Mauritius, fertility levels followed a route similar to that of Latin American.

Increase in the educational level of women, increase in age at marriage are among reasons often stated for fertility decline in most of developing countries as a whole. An inverse association between parent's education and fertility for example is a common finding in fertility studies. The higher education level, the lower the fertility rate.

The mother's education has been found to be a significant factor in the reduction of fertility in many countries (Freedman, 1987; Singh and Casterline, 1985). In Zimbabwe, a husband's education was found to have a bigger impact than that of a wife (Thomas & Muvandi, 1994).

2.3. Fertility Levels, Trends and Differentials in South Africa.

In South Africa, studies on fertility differentials have been carried since the late nineteenth century, principally at the national level. The assumption behind this is that difference in socio-economic status lead to a difference in fertility in all societies. In a study on fertility for the period 1936-1941 for example, a different pattern of fertility among different races or population groups was reported. The Indian fertility level was the highest in South Africa in the period considered. In fact, white and coloured fertility recorded were 3.3 and 6.3 children per woman respectively against 7.3 children per woman for Indian.(Grobbelar,1984; Sadie,1973;Mostert 1991 quoted by Makiwane,1998). Lack of data on the Black population did not permit estimation of Black fertility, before 1950. However, because of the apartheid system, it is assumed that fertility level of Black was higher than in any other racial group in South Africa.

The subsequent studies carried out reveal the same picture of difference in fertility pattern in South Africa as a whole. In fact, even though fertility dropped from an average of 6 to 7 per woman between 1950 and 1979, and from 4 to 5 to 2.9 between 1980 and 1996, difference has been observed among population groups. White people experienced more much decline , followed by Asian and Coloured and African fertility declined less than other racial groups .(DSD,2000). Fertility is on the other hand lower for urban areas (2.3) compared to non-urban

areas (3.9) (DSD, 2000:43) Caldwell and Caldwell (1993) identified a high level of African women fertility compared with the all South African women.

Analysing South Africa 1996 Census, Chimere-Dan (1999) discover difference in fertility according to marital status of women. The author found that the average TFR for African women who were never married or who were cohabiting were 3.9, while the average TFR of married one was about 4.3 . Relationship between fertility and socio-economic factors has been investigated in the context of South Africa. Chimere-Dan (1996), for example identified a clear and statistically significant indirect association between fertility and level of living standard. For all South Africans, the TFR was estimated to be about 4.6. Within the country, difference has been observed according to the standard of living. Non poor population fertility was about 2.5 against an average of 4.6 for the very poor.

The pattern of fertility differed also according to the race of population. In fact, the TFR for the races were estimated to be 4.1, 2.7, 2.3 and 1.7 for African, Coloured, Indians and Whites respectively (Chimere-Dan, 1996). Direct relationship between lower socio-economic development, i.e. illiteracy, unemployment and lower education has been observed in the 1998 South Africa DHS and fertility. Large families have remained the norm in the poorer rural areas of South Africa (SADHS, 1998).

Moultrie & Timaeus (2001) are other scholars who dealt with the issue of fertility differential in South Africa. In their study, they identified socio-economic factors such as women's schooling, household income and region of residence that affect South Africa fertility. Indeed, educated women living in household with a monthly income of R 1,500 or more have the smallest families, and the impact of schooling on lifetime fertility is greater among the poor, while the effect of household income on fertility is greater among women with no schooling. Furthermore, at any age, women living in the rural parts of the country have borne the most

children and women living in metropolitan areas the fewest. In fact, about half of this residential differential in family sized is accounted for by variation between residential zones in the other characteristics of black African.

In a study of fertility in SA, Swartz (2003) discovered relationship between fertility and poverty among South African women. The African population, who are the poorest with regard to the per capita income, have the highest fertility rate while the white population, with the highest per capita income have the lowest fertility rate. The differences outlined above may be partially explained by the socio-economic division along racial and urban-rural lines of apartheid system.

Fertility levels also vary by age groups. Analysing fertility by age groups in South Africa, Chinere-Dan (1999) observed a high rate of teenage pregnancies, mainly to unmarried girls. Swartz (2003) found that 35 per cent of all teenagers had been pregnant or had a child by the age of 19 years. Within population group, teenager pregnancies are more prevalent among coloured and African girls particularly those with little or no education. The proportion of teenage girls who had experienced a pregnancy grew from 2.4 per cent to 35.1 per cent with each additional year of age. Meanwhile, Garenne et al (2000) discovered a flatness of fertility distribution at younger age group (and a high rate of fertility among adolescents) for African women which they discovered to be the result of high levels of premarital fertility among women aged 15 to 25, and marital fertility among women aged 15 to 49. Among white women, higher peak in the 25-29 age groups has been observed. (Moultrie &Timaus, 2002).

On a sub-national level, Makiwane (1998) found different pattern of fertility between married and never married women, for the period 1990-1994 in Transkei. According to this study, married women TFR of 5.8 was greater than that of never married with a TFR of 3.3 children per woman. In terms of age, the author discovered a high level of fertility at the lowest and highest ends of reproductive ages, among white, Indian and coloured and little difference in the middle-

age. On the other hand, Blacks fertility portrays a lower pattern in the middle reproductive age with an insignificant difference in the earlier ages.

Analyzing the usage of contraception in Transkei, Makiwane discover that “unmarried women are more likely to use contraceptives than married ones are “(Makiwane, 1998: 83). Furthermore a significant association between fertility and place of residence, education has been observed in the population under study. Significant and consistent differences at 95 % level of significance between education and fertility level has been identified in Transkei. In addition, the contribution of contraception to fertility reduction was significantly higher in urban areas than in rural areas. (Makiwane, 1998).Regressing each individual socio-economic factor against proximate factors, Makiwane (1998) discover a significant impact of marital status and education on total fertility rate in Transkei. In addition, the interaction of marital status and education, and marital status and work status were also significant in the regression of the contribution of the never-married state to the reduction in fertility (Makiwane, 1998). When regression of total fertility is adjusted by education, marital status and contraception, the author discover a wide variation of fertility by marital status and education status in Transkei. However, after controlling for all factors and covariate in the model of regression, only education categories show consistent and significant differences in their contributions to the reduction in fertility (Makiwane, 1998). Taking into account contraceptive use, the author discovered a significantly higher contribution of contraception in urban areas than in rural areas.

From the forgoing review, one can see that most of fertility studies done in South Africa analysed fertility differentials at the aggregate level. Socio-economic status of population seems to account for the difference of fertility. Apartheid system created unequal development among population groups and region of South Africa. Not much have however been done in the sub-national level. The present study will therefore make a specific contribution by analysing fertility differential in South Africa informal settlements, one of the more disadvantage areas of the country.

2.4. Theoretical Framework.

Like any scientific discipline, demographic research has been governed by theoretical framework. Demographic transition theory (DTT) is the principal theory which tries to explain the process of achieving low fertility in different country. The model of demographic transition suggested that a population's mortality and fertility would decline as a result of social and economic development (Weeks, 1999). Demand theory, Wealth flow theory and the theory of diffusion are among theories of demographic transition, which emphasised the role of socio-economic characteristics of individual, as factors affecting fertility.

Demographic transition theory (DTT) posited that every society that undergoes modernization will have a decline in fertility (Kirk, 1996). According to the proponent of this theory, the end result of modernisation is a drop in fertility rates. Education is often identified as one potential stimulant to this fertility decline. Rational choice theory furthermore posits that human behaviour is the result of individual making calculated cost –benefit analyses about how to act and what to do. According to this theory, people will have large families if it is beneficial to them (Robinson, 1992; Boserup, 1985). The traditional demand theories hypothesized that the demand for children will decline with change in socio-economic condition (Bongaarts, 2002; Bongaarts & Walkins, 1996; Cleland & Wilson, 1987).

Wealth flow theory (Caldwell, 1982) states that high or low fertility depends on social conditions: essentially the direction of intergenerational wealth flow. The net wealth flow is according to this theory from younger to older generation in traditional societies, whereas, in modern societies, it is from older to younger generations. Modernization eventually results in the tearing apart of large, extended family units into smaller, nuclear unit that are economically and emotionally self-sufficient. In other words, nuclearization is, according to the theory the key force in fertility change. However this theory has been criticised.

Theory of diffusion states that fertility change happens mostly through adoption of innovation ideas and corresponding behaviour by some people, which are likely to spread to be adopted by others (Montgomery et al, 1993: 457-479). Evidence in support of diffusion thesis is the fact that fertility decline has occurred under a wide variety of social and economic circumstances, with the pace of decline in terms of ethnic boundaries (Rosero-bixby & Casterline, 1993; Lesthaeghe, 1983). In other words, according to the diffusion approaches, the higher fertility of the poor does not reflect their economic rationality, but is rather explained by the fact that the idea of fertility control that the driving force for fertility decline is socio-economic development, in particular a decline in mortality and information on contraceptive methods have not reached the poor, and/ or that contraception is not available to them. Therefore, fertility will decline among the poor with some delay. (Birdsall, 1980; Cleland, 1994).

From these theories, it is noticed that socio-economic factors play a great role in fertility regulation. It is in this line that an UN (2002a) study concludes that the driving force for fertility decline is socio-economic development, in particular a decline in mortality, and increased female education and labour force participation. Higher mortality among the poor tends to increase their fertility through various mechanisms, such as replacement and insurance effects (Heer, 1983). Lower levels of female education among poor may also partly explain their higher fertility (Birdsall & Griffin, 1988). The implication of these theories to the current study is that in informal settlements characterised by poor socio-economic conditions, fertility will be high.

2.5 Conceptual Framework

Several efforts have been put forward in order to understand the determinants of fertility and attempt to formulate appropriate theories and models that explain reproductive behaviours. Davis and Blake (1956) framework is perhaps the one which emphasised the role of socioeconomic factors affecting fertility. Those authors made explicitly the distinction between factors which

directly and indirectly influence fertility by identifying the direct factors referred to as proximate determinant or intermediate variables of fertility as they mediate between fertility and any other variables. Education for example has to affect fertility by affecting age at marriage or use of contraception and the age at marriage or contraception will transfer this effect directly to fertility (Bongaarts, 1978).

Furthermore, Bongaarts (1978) is of the opinion that in any population the actual level of fertility achieved by a woman is influenced by seven intermediate variables or proximate determinants: marriage, contraception, induced abortion, lactational infecundability, fecundability, spontaneous intrauterine mortality and sterility. According to this author, the variables outlined above together constitute a complete set of path way through which socio-economic and cultural factors affect fertility. Educations for example give people access to more sources of information on contraception which is likely to affect fertility. Education is widely believed to provide economic skill. Meanwhile, jobs opportunities are furthermore often rationed on the basis of the level of education achieved.

Therefore, an adaptation of this framework is used in this study in order to identify the socio-economic factors affecting fertility in South Africa informal settlements.

Figure 1 portrays the pathway through which socio-economic factors (SEF) are likely to operate to influence fertility. Socio-economic factors affect fertility not only directly but also indirectly through proximate determinants or intermediate determinants. Indeed, it is generally hypothesized that “modern” individuals have lower fertility than more traditional individuals. In other words, people living in urban areas, those who are well educated, those working and wealthy one are likely to have lower fertility than those who are rural, uneducated, those who are not working and poor one (Acsadi & al,1990) .

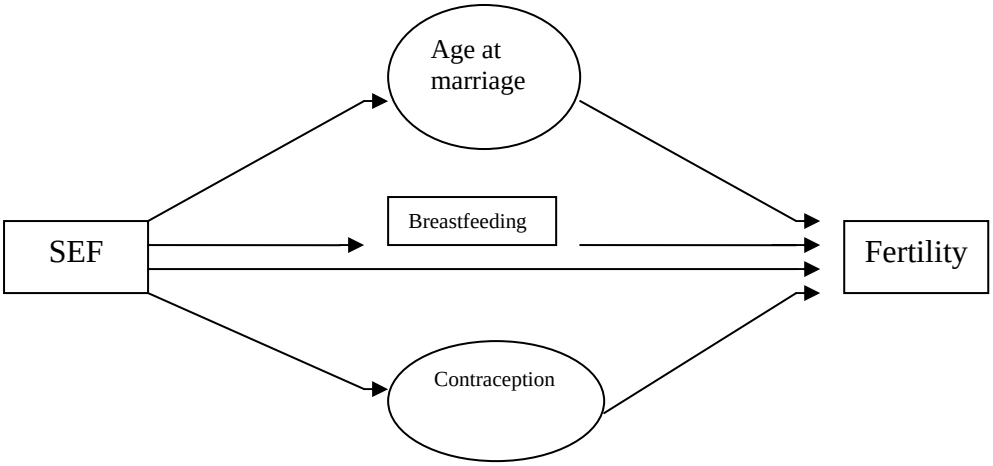

Figure 1: Conceptual framework**.**

Women's education, marital status, income and wealth may for example affect fertility directly or indirectly through proximate variables such as age at marriage, contraceptive use, and breastfeeding. It is generally hypothesized that, the more education a woman has, the older her age at marriage. In fact, education raise the age at which women marry, and thereby shift the age of entry into sexual unions, leading therefore to a decline in fertility, because of the reduction of childbearing span. Furthermore, education gives knowledge and information on contraceptive methods which may also lead to a decline in fertility.

Contraceptive use is primary motivated by a desire to control fertility. It is among proximate determinant most likely to correspond to and change with fertility aspirations. Differentials in contraceptive use are therefore expected to correspond to differentials in family size preferences. Breastfeeding patterns may help explain socio-economic differences in fertility. An inverse relationship is often established between duration of breastfeeding and education. It is generally hypothesized that the more education a woman has, the less she breastfeeds.

Fertility can also be directly affected by socio-economic factors. For example, it is generally hypothesized, as education increases, fertility declines.

Marital status has been pointed among the powerful determinants of fertility. Married women generally have more children than unmarried women of the same age. Traditionally, births to unmarried women were not accepted in most societies so that, women often began bearing children after marriage and continued throughout her reproductive life time as long as they remained married. Income is another factor thought to be influential in women's behaviour, through employment. A high or average level of personal income is likely to give women more opportunities to improve themselves and keep them in touch with technological innovation, leading thereby to a decline in fertility.

Ownership of household goods expressed by having radio or TV, combine with education might improve knowledge on contraceptive use which may lead to a decline in fertility as well. However, pattern of early and virtually universal marriage and low use of contraception which characterised African in the Sub of Saharan are likely to lead to a high level of fertility in this part of the world. The explanatory role of these factors in explaining fertility dynamics in South Africa's informal settlements is analysed.