The Demography of Zimbabwe:

Some Research Findings

University of Zimbabwe Demographic Unit

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Published by Earthware Publishing Services on behalf of the Demographic Unit, Department of Sociology, University of Zimbabwe, P.O. Box MP 167, Mount Pleasant, Harare, Zimbabwe.

ISBN 0—7974—1363—4

Contents

Chapter 1

The status of women and fertility in Zimbabwe

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Introduction

This paper examines the nature of the relationship between the status of women and fertility, and the implications of this relationship for future fertility reduction in Zimbabwe. Fertility in Zimbabwe is comparatively high for sub-Saharan Africa. Globally, the status of women is considered to be an important factor in reducing high population growth rates, since it has a negative effect on fertility. Specific indicators of women's status, for example education and work status, have been found to be negatively related to women's fertility. In the study these indicators will be hypothesized to be negatively related to fertility, and then tested using data from the Zimbabwe Demographic and Health Survey (CSO, 1989).

Objectives of the study

The main aim of this study is to investigate the relationship between women's status and reproductive behaviour in Zimbabwe. To achieve this aim, the study's objectives are to explore:

- the term "status of women" and the status of women in Zimbabwe in general
- the relationship between education and fertility
- the relationship between women's participation in the labour force and fertility
- the relationship between women's age at marriage and fertility
- the relationship between contraceptive use and fertility.

Definition of "the status of women"

Debates over the disadvantages faced by women are almost always phrased in terms of women's status. Since "status" is a relative term, a statement about status implies a comparison of ranking; status of women connotes gender inequality. "Status" was originally a legal term referring to the legal standing of persons, enjoying certain rights or subject to certain limitations (Hommes, 1978; Shanawany, 1985). Later, the meaning of the word was extended to cover an individual or group position in society in a more general sense (Shanawany, 1985). Therefore, the status of women can be broadly defined as the position of women as a group in comparison to the position of men in all fields of society (Hommes, 1978). The various aspects of women's status include legal and

political rights; open opportunities for education and employment, and involvement in policy-making positions, in administration and in government (Shanawany, 1985). Thus, the concept is multi-dimensional, and men and women may be relatively unequal along more than one dimension. These aspects of the status of women have been found to be independent of each other so that no single particular variable can describe the status of women.

The status of women in developing countries has been divided into public status and private status by Buvinic (1976). Public status refers to society's evaluation of women relative to men while private status refers to women's influence at household level relative to men. This distinction is used because there may be no correlation between status in society — the macro-level — and power in the household — the micro-level. For example, women might have high status at a social level through higher education and occupation, but low status at home with no involvement in decision-making due to cultural beliefs.

The status of women can only be defined in terms of what one wants to study. There is a relationship between the status of women and fertility at both macro- and micro-levels. At macro-level the definition of the variables is standard. For example, a woman with a high level of education and a profession is considered to be of high status. This status affects status at micro-level. At household level the definition is not standard but depends on the culture; the status at this level will not affect the status at macro-level.

Thus, the concept "status of women" is an important part of the cultural background of any society, changing with the social environment. Many countries have comprehensive legislation to increase the status of women, but theory differs from daily practice, and many such laws are ignored where they contradict cultural practices. Thus, changes in the status of women are not necessarily effected with "modernization".

To conclude, "status" can be said to be position in a society. To acquire status women have to acquire education and employment to gain access to scarce resources. Thus, anyone who owns the means of production and who has status has decision-making power. This definition is more inclusive and more comprehensive than the one stated earlier. For example, a person who owns land, is educated, trained and has income also has status and makes decisions. At macro-level some people are more educated than others. The more educated tend to have the highest remuneration. In this respect, income is equated with status. Thus, women who are more educated have more influence. In the traditional sector there is no monetization (value of money) but a land-owner, able to feed a family, has status. With modernization the movement from land to monetization means that a land-owner not generating income has low status. The status of women is culture-specific and changes with the environment (Pavlik and Zborilova, 1978).

Sources of data

The study will draw data from the Zimbabwe Demographic and Health Survey (CSO, 1989). This survey has detailed information on fertility and child mortality levels and trends; fertility preferences; knowledge, approval and use of contraceptives, and basic indicators of maternal and child health. The sample design for the ZDHS (CSO, 1989) was based on the national master plan. A total of 4 201 women from both urban and rural areas were interviewed. About 33.5% (1 407) of the women interviewed were from areas defined as urban or semi-urban, while 66.5% (2 794) were from rural areas, including communal lands, large-scale commercial farms, small-scale commercial farms and resettlement areas. The data is limited in that 75% of the Zimbabwean population actually reside in the rural areas with only 25% in urban areas. The questions asked were limited to cover the indicators of the status of women.

Data analysis

The data has been subjected to a combination of bivariate and multivariate analysis. Multiple regression analysis was used to find the strength of correlation and coefficient of determination (r^2).

Findings

This section seeks to establish a relationship between the indicators of status of women and the intermediate variables. This shows how women's education and work status affect age at marriage and contraception.

Contraception and education

Women with high status have high levels of education and of contraception use. As expected, the study revealed a positive relationship between education and current contraception, as shown in Table 1.1. Use of modern contraceptives increases with education from the 20–24 age group up to the 40–44 age group. For the 20–24 age group, 28.8% of the women without education use modern contraceptives compared with 33.2% among the most educated women. In the 25–29 age group, 29.5% of the non-educated women use modern contraceptives compared with 51.8% of the most educated in this age group. This pattern runs through the rest of the age groups. The two outliers, age groups 15–19 and 45–49, demonstrate unexpected relationships. The 15–19 age group consists of women of school-going age, most of whom do not use contraceptives. This may have caused the discrepancy. The lowest percentages of women not using contraceptives are found within the 20–34 age groups, the most effective child-bearing period.

The variation is even higher if we use the term "ever use" as a measure o contraception. The percentage of women who have ever used contraceptives i higher than the number currently using them. Over 80% of women wit secondary and higher education use modern contraceptives compared with maximum of 60% (the 40–44 age group) currently using contraceptives. Thes results reflect the fact that "current use" excludes women who are pregnant subfecund or sterile and those who are not using contraceptives voluntarily Contraceptive use measured by the term "ever use" increases with level o education. Thus, the more educated women are, the higher their status and th more likely their use of contraceptives, especially modern methods.

Contraception and work status

Working women have higher status than women who are not working. Thei income gives them more bargaining power, thus allowing them to determin whether to use contraceptives. It was hypothesized that contraceptive us increases with women's participation in the formal sector. The expected positiv relationship between women's work and contraception is confirmed by the dat in Table 1.2. The total percentage and the percentage for each age group o women using contraceptives is higher among women who are working tha among those who are not working. In the 20–24 age group, 34.8% of workin women use modern contraceptives compared with 31.9% of women who are no working. In the 25–29 age group, 42.7% of working women use moder contraceptives compared with 40.9% of women who are not working, in th same age group. This pattern is repeated through the remaining age groups. There is little difference among those using traditional methods. Therefore, contraceptive use is highest among women who have higher status by virtue of their participation in the labour force.

Contraception and place of residence

Women in urban areas enjoy higher status than women in rural areas. Women in urban areas were hypothesized to use modern contraceptives more than women in rural areas, due to increased educational and working opportunities in urban areas. This hypothesis was tested in this study and was found to be true for Zimbabwe. Table 1.3 shows the effect of urbanization on contraception. Use of modern contraceptives is higher among women in urban areas than women in rural areas except for the 15–19 age group. For the 20–24 age group, 35.9% of the women in urban areas use contraceptives compared with 30.6% of women in the rural areas. This difference is repeated through the age groups. This result is expected, due to the concentration of educated women in urban areas. Urban women have been reported as the highest users of contraceptives since they have more access to contraception information than rural women.

Table 1.1: Percentage of women currently using contraception by education

Education	Method of contraception		
	Modern	Traditional	No method
15-19 years			
None	7.7	3.8	88.5
Primary	7.2	0.4	92.4
Secondary+	7.1	2.0	90.9
20-24 years			
None	28.8	3.4	67.8
Primary	32.9	4.5	62.6
Secondary+	33.3	2.4	64.3
25-29 years			
None	29.5	3.3	67.2
Primary	41.7	7.1	51.2
Secondary+	51.8	2.9	45.3
30-34 years			
None	35.3	10.8	53.9
Primary	40.2	6.8	53.0
Secondary+	52.9	2.9	44.2
35-39 years			
None	14.8	11.1	74.1
Primary	32.6	10.0	57.4
Secondary+	45.3	7.8	46.9
40-44 years			
None	19.2	7.4	73.4
Primary	23.2	11.3	65.5
Secondary+	60.0	0.0	40.0
45-49 years			
None	14.6	3.7	81.7
Primary	11.7	5.3	83.0
Secondary+	40.0	10.0	50.0

Table 1.2: Percentage of women currently using contraception by work status

	Current work status					
	Not working			Working		
Age group	Modern method	Trad-itional	No method	Modern method	Trad-itional	No method
15-19	6.4	1.2	92.3	10.1	1.5	88.4
20-24	31.9	3.6	64.5	34.8	2.6	62.6
25-29	40.9	5.6	53.5	42.7	5.6	51.7
30-34	37.9	6.2	55.9	46.6	7.6	45.8
35-39	29.0	9.9	61.0	34.4	9.9	55.7
40-44	22.3	7.3	70.4	29.2	11.7	59.1
45-49	12.4	4.3	83.2	17.1	6.2	76.7

Table 1.3: Percentage of women currently using contraception by place of residence

	Place of residence					
	Urban			Rural		
Age group	No method	Trad-itional	Modern method	No method	Trad-itional	Modern method
15-19	92.6	1.5	5.9	91.9	1.1	7.0
20-24	62.0	2.1	35.9	65.2	4.2	30.6
25-29	45.4	2.2	52.6	56.8	7.4	35.8
30-34	51.4	2.4	46.2	51.7	9.2	39.1
35-39	50.7	6.3	43.0	62.5	11.6	25.9
40-44	61.5	4.4	34.1	67.0	11.0	22.0
45-49	67.1	2.8	30.1	84.8	6.0	9.2

Generally, the use of traditional methods is higher among rural women than urban women when controlling for age. Only the 15-19 age group shows a greater use of traditional contraceptives in urban areas. "Current use" and "ever use" of contraceptives increase with education. It has also been found that women who are working use more contraceptives than women who are not working. When the urban/rural component is included, women in urban areas are found to use contraceptives more than women in rural areas.

It can be concluded that urban women who are educated and working tend to use contraceptives more than rural women who are not educated and not working. Thus, women with high status have a higher probability of using contraceptives than women of low status.

Age at first marriage and education

Table 1.4 shows that 23.8% of women with no education marry when they are below 15 years and 35.1% marry between the ages of 15 and 17 years. The highest proportion of women who married under 15 years old are those with no education: 23.8% compared with 4.3% of women with secondary education and higher. Women with primary education marry later than those who are not educated. The majority of women who married late, 20–21 years and above 21 years, have secondary education and higher. Thus, education plays an important part in enhancing the status of women, increasing age at marriage and subsequently reducing the period of child-bearing. This could lead to lower fertility.

Table 1.4: Percentage of ever-married women by age at first marriage and education

	Level of education		
Age at marriage	No education	Primary education	Secondary and higher
< 15 years	23.8	11.8	4.3
15-17 years	35.1	37.0	22.8
18-19 years	16.4	26.7	28.9
20-21 years	10.3	13.5	20.1
> 21 years	14.4	11.0	23.9

The relationship between education and age at first marriage can also be looked at by using the mean age at first marriage. The results are represented in Table 1.5 and Figure 1.1 which show the mean age at marriage by the level of education of a woman. Education has a positive relationship with age at first marriage in Zimbabwe, with age at first marriage increasing with education. The results indicate that women with no education have the lowest mean age at first marriage for each age group, with an overall mean age of 17.5 years. Women with primary education have a mean age of 17.9 years at first marriage, which is slightly higher than that for non-educated women. The highest mean age of 22.5 years at first marriage is found among women with higher education, giving a difference of 5 years at first marriage between the most educated women and

women with no education. Education plays an important role in delaying marriage and this could lead to lower fertility.

Table 1.5: Mean age at first marriage by education

Age group	Level of education			
	No education	Primary education	Secondary education	Higher education
15-19 years	14.5	15.7	16.7	–
20-24 years	16.1	17.3	19.0	21.0
25-29 years	16.7	18.0	20.2	21.3
30-34 years	16.9	18.2	19.5	23.1
35-39 years	19.3	18.6	20.0	24.7
40-44 years	17.9	17.9	19.5	19.8
45-49 years	18.7	18.4	22.3	27.0
Overall mean	17.5	17.9	19.2	22.5

(Source: CSO, 1989

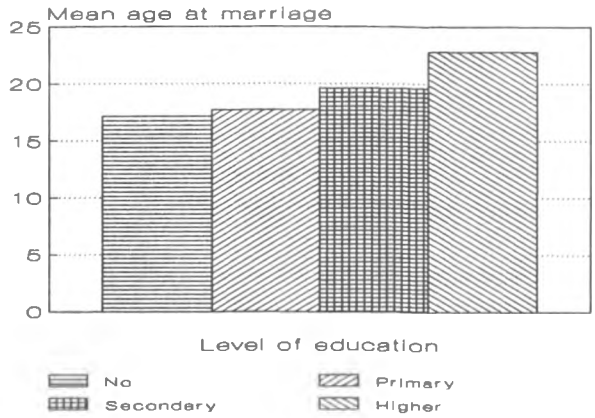


Figure 1.1: Mean age at marriage and education

Age at first marriage and work status

Women with high status are in paid employment. Age at first marriage was hypothesized to be inversely related to work status. Work status refers here to

work *before* marriage because it is this variable which affects fertility rather than *current* work status. Table 1.6 shows the relationship between age at first marriage and work status. The percentages of women refer to women who were ever married since those who have never been married are recorded as missing cases. According to the results in Table 1.6 most women who married before the age of 15 years and from 15 to 17 years and 18 to 19 years have never worked before marriage. Only in the 20–21 age groups and above are the percentages of women who ever worked before marriage higher than those who never worked.

Table 1.6: Percentage of ever-married women by age at first marriage and work status

	Work status before marriage	
Age at marriage	**Never worked**	**Worked**
< 15 years	12.9	11.8
15-17 years	36.5	29.4
18-19 years	25.7	23.6
20-21 years	13.5	16.7
> 21 years	11.4	18.5

Mean age at marriage has also been calculated to show the relationship between age at first marriage and work status. This is demonstrated in Table 1.7 and Figure 1.2. Women who worked before marriage have a higher mean age at first marriage than women who never worked, except for the first age group, 15–19. Those who worked before marriage have a mean age at first marriage of 18.5 years compared to 17.8 years for those who never worked before marriage. The difference is slight.

(Source: CSO, 1989)

Figure 1.2: Mean age at marriage by work status

Table 1.7: Mean age at first marriage by work status

Age group	Work status before marriage	
	Never worked	Worked
15-19 years	16.1	16.0
20-24 years	17.6	18.2
25-29 years	17.9	19.1
30-34 years	17.8	19.1
35-39 years	18.7	18.3
40-44 years	17.8	19.1
45-49 years	18.3	18.1
Overall mean	17.8	18.5

Age at first marriage and place of residence

The highest proportion of women staying in rural areas who have ever worked were married at ages 15–17 years followed by women married at ages 18–19 years (see Table 1.8). Women who have never worked but stay in rural areas follow the same pattern. Considering the residential effect, 27.2% of the urban women who have ever worked marry at ages 18–19 years; 23.7% marry at age 21 and above. In rural areas, work status has little effect on age at marriage. The most important variable here is work status combined with urban residence. Women who have ever worked before marriage and live in urban areas marry later.

Table 1.8: Percentage of women who have ever worked by place of residence and age at first marriage

Age at marriage	Ever worked	
	Urban	Rural
< 15 years	7.9	13.9
15-17 years	21.9	33.3
18-19 years	27.2	21.8
20-21 years	19.3	15.3
> 21 years	23.7	15.7
Total	100.0	100.0

The mean age at first marriage is higher for urban women than for rural women. The mean age at first marriage for women aged 15–49 years is 18.6 years in urban areas compared with 17.9 years in rural areas (see Table 1.9). Although the pattern is somewhat erratic among older women, there is a trend to increase the age at first marriage among women under 35 years of age in urban areas. Therefore, women who live in urban areas have a higher mean age at first marriage which is probably due to the concentration of educational and other facilities in urban areas. Most women in Zimbabwe stay in rural areas where women have low status. If more women were to move into urban areas, associated with higher status, it is possible that the mean age at first marriage would increase and this could reduce fertility.

Table 1.9: Age at first marriage by place of residence

	Place of residence	
Age Group	**Urban**	**Rural**
15-19 years	16.5	15.8
20-24 years	18.0	17.7
25-29 years	18.5	18.0
30-34 years	18.9	17.8
35-39 years	19.3	18.7
40-44 years	18.1	18.0
45-49 years	20.1	18.3
Overall mean	18.6	17.9

Fertility in relation to variables

In the following sections the relationship between each of the independent variables (education, work status, age at marriage and contraceptive use) and the mean number of children ever born is discussed.

Education and fertility

As already indicated, women with high levels of education have higher status than women who are not educated. There were 4 201 women interviewed in the Zimbabwe Demographic and Health Survey (CSO, 1989) of whom 14% never received formal education; 56% had some primary schooling and 30% achieved at least secondary education. The younger age groups attain higher education

levels than the older women. This is demonstrated in the ZDHS where only 2% of the 15-19 age group never received formal education, compared with 28% in the 45-49 age group. Among women who attended school, educational achievement is generally greater for younger women than older women; 50% of the youngest cohort attended secondary school, compared with only 7% of the women in the oldest age group (CSO, 1989). There has been a sharp increase in the proportion of women achieving the secondary level in the recent past; 50% of women under 25 had secondary education, compared with 20% of women aged 25-29 years. This shows that the status of women has been increased by education policies since independence.

It was hypothesized that education is negatively related to fertility. This hypothesis has been tested and the statement has been found to be true in this study.

Table 1.10 shows that education is an important variable in determining fertility. The mean number of children ever born (CEB) decreases as the level of education increases for each age group. Women aged 15-19 years with no education have an average of 0.5 children ever born, those with primary education have 0.2 children and those with secondary education and higher have 0.1 children. This relationship holds true for other age groups with the 45-49 age group having an average parity of 7.4 children for non-educated women, 6.9 children for women with primary education and 4.3 children for women with secondary education and higher. Thus, those women who had no education have the highest number of children ever born. If status of women is raised in this country by increasing education among women, this could possibly lead to fertility decline.

The average parity increases with age for each educational group. This is the normal trend, thus demonstrating data reliability. For non-educated women the mean number of children ever born increases from 0.5 in the 15-19 age group to 7.4 in the 45-49 age group. Women with primary education have their average parity increasing from 0.2 in the youngest group, 15-19 years, to 6.9 in the oldest group, 45-49 years. In the last category, women with secondary education and higher have an average parity increasing from 0.1 in the lowest age group to 4.7 in the 40-44 age group, but the 45-49 age group has a lower parity of 4.3, which raises questions about the reliability of the data on this age group.

Many studies have shown that women with little education have more children than women who are not educated (Zimbabwe National Family Planning Council, 1985). This expected relationship has not been found in this survey. As shown in Table 1.11 women with little education (3 to 4 years) have lower fertility (4.5 children ever born) than women without any education (4.9 children ever born). Increase in education leads to fewer children ever born through all age groups. Women without education have the highest fertility of 4.9 children and women

with over 10 years of education have the lowest fertility of 1.0 children with an average for all women of 3.0 children. The mean number of children ever born is low because it includes women who are not married.

Table 1.10: Mean number of children ever born by level of education

Age group	Level of education		
	No education	Primary education	Secondary and higher
15-19 years	0.5	0.2	0.1
20-24 years	2.1	1.8	0.7
25-29 years	3.4	3.0	1.9
30-34 years	5.3	4.4	3.3
35-39 years	6.3	5.6	4.2
40-44 years	6.2	6.8	4.7
45-49 years	7.4	6.9	4.3

Table 1.11: Mean number of children ever born by education in single years

Education in single years	Mean number of children ever born
No education	4.9
1-2	4.8
3-4	4.5
5-6	3.6
7-8	2.3
9-10	1.4
> 10	1.0
Overall mean	3.0

Work status and fertility

It is generally believed that women working in the formal sector have lower fertility than women who are not working because formal work is incompatible

with child-bearing, and that working women have higher status than non-worki
women. Table 1.12 shows this to be true.

Table 1.12: Mean number of children ever born by work status

	Current work status	
Age group	**Not working**	**Working**
15-19 years	0.2	0.3
20-24 years	1.3	1.2
25-29 years	3.0	2.8
30-34 years	4.6	4.0
35-39 years	5.8	5.1
40-44 years	6.8	5.9
45-49 years	7.3	6.3
Overall mean	2.8	3.3

Women who are not working have a higher mean number of children ever bo
than women who are working, except for the 15–19 age group and the over
mean. The fertility difference between women working and those not working
very small. For the 20–24 age group the difference between the average pariti
is 0.1; 25–29 years, 0.2; 30–34 years, 0.6; 35–39 years, 0.7; 40–44 years, 0.
and 45–49 years, 1.0.

These findings echo research results by Chaudhury (1984) in Banglade
where work experience was found to have little or no effect on fertility. Th
reasons given were that while nearly 90% of respondents were found to be "no
working", the majority of them were engaged in the traditional sector of t
economy (that is, agriculture) and the tertiary sector. Moreover the women wh
were "working" came from poor socio-economic backgrounds, and this facto
in increasing fertility, may have masked the depressing effect of work on fe
tility.

The overall mean in Table 1.12 gives a positive relationship where wom
working bear more children than women not working. This result is due to n
controlling for age. Thus, it could be the large size of the family that forc
women to go out and work, rather than work status affecting fertility. On th
whole, women who are working tend to have slightly fewer children. Mo
employment opportunities for women in Zimbabwe could therefore affect fertili
levels. Improving the status of women through employment will not be ve

effective in fertility reduction, unless they are educated and employed in jobs which are challenging or in jobs away from home.

In the ZDHS (CSO, 1989) working women were asked to state who looked after their children while they were at work. Working women who reported that their children are looked after by someone else when they are at work mostly nominated other children, relatives and housemaids as carers (see Table 1.13). Other relatives were cited in 40.8%% of cases; domestic help, 21.5%; other children, 19.6%.

Labour force participation tends not to be incompatible with child-rearing because there are other children and relatives to look after the children and child care is not expensive in Zimbabwe.

Table 1.13: Percentage of women by type of child carers

	Number of women	Percentage of women
Husband	4	1.1
Self	3	0.8
Other children	74	19.6
Other relatives	154	40.8
Neighbours/friends	14	3.7
Domestic help	81	21.5
Children at school	13	3.4
Nursery/day care	33	8.8
Other	1	0.3
Total	377	100.0

Age at first marriage and fertility

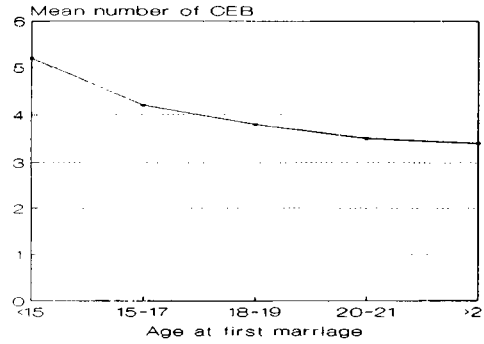
The hypothesis that age at marriage is positively related to fertility has been tested and has been found to be true. Table 1.14 shows that women who marry earliest have the highest mean number of children ever born.

The mean number of children ever born decreases from 5.2 for women first-married before age 15 years to 3.4 for women first-married at 22 years and over. There is not much difference between those mothers who marry at ages 20–21 years and those who marry at 22 years and over. The difference between women who marry at the youngest ages (under 15 years) and those at the highest ages (over 21 years) is 1.8.

Women who were older at first marriage have lower fertility. Figure 1.3 shows that as age at first marriage increases, the mean number of children decreases.

Table 1.14: Mean number of children ever born by age at first marriage

Age at marriage	Mean number of children ever born
< 15 years	5.2
15-17 years	4.2
18-19 years	3.8
20-21 years	3.5
> 21 years	3.4
Overall mean	4.0



(Source: CSO, 1989)

Figure 1.3: Mean number of children ever born by age at first marriage

Current contraception and fertility

The relationship between current contraception and fertility is shown in Table 1.15. The expected negative relationship between contraception and fertility has not been revealed in this study. Women using contraceptives (either traditional or modern methods) have higher fertility than women not using any type of contraceptive. The reason for lower fertility among women not using contraceptives could be the inclusion in this category of school girls aged 15–19 years who may have a lower rate of contraception, and of women who are sterile. This tends to lower the average number of children ever born. Another reason could be the use of contraception for child spacing rather than for limiting family size.

Table 1.15: Mean number of children ever born by contraceptive use

Age group	Current contraceptive use by method		
	No method	Traditional method	Modern method
15-19 years	0.1	0.3	1.1
20-24 years	1.0	1.2	1.8
25-29 years	2.7	3.4	3.2
30-34 years	4.0	5.3	4.6
35-39 years	5.2	6.8	5.4
40-44 years	6.0	8.2	6.8
45-49 years	6.8	8.3	6.7

Place of residence and fertility

The mean number of children ever born by place of residence, controlling for age, is shown in Table 1.16. Women staying in urban areas have lower fertility than women staying in rural areas. The mean number of children ever born for the 45–49 age group is 7.5 for rural women and 5.0 for urban women, giving a difference of 2.5 children. Thus, urbanization enhances the status of women and could play an important role in reducing fertility among women in Zimbabwe. The status of women is raised by education and participation in the labour force, both of which are more likely in urban areas. This finding is consistent with other studies, including the study by Henin (1973) in Tanzania where he found higher fertility among women in rural areas.

Table 1.16: Mean number of children ever born by place of residence

Age group	Place of Residence	
	Urban	Rural
15-19 years	0.1	0.2
20-24 years	1.1	1.4
25-29 years	2.4	3.1
30-34 years	3.5	4.8
35-39 years	4.6	5.6
40-44 years	5.4	6.8
45-49 years	5.0	7.5

Multivariate analysis

In order to be able to compare the relative importance of all independen variables in explaining variance in Y, the standardized form of multipl regression equation is used:

$Z_y = b_1Z_1 + b_2Z_2 + b_3Z_3 + \ldots\ldots\ldots b_iZ_i.$

where b_i = a beta weight or beta coefficient (that is, a conversion of b_i value standardized Z-score form).

Both the standardized and unstandardized b values are provided in the Statistica Package for Social Scientists (SPSS), a software package used to statistically analyze data, including stepwise multiple regression which was chosen for thi analysis. The unstandardized values of b_i are based on the actual units used t measure each X, which may be, and usually are, quite dissimilar, hence, the b values are not comparable with each other. This makes conclusions on th importance of each independent variable in explaining the dependent variable.

Step 1 of the regression output indicates that the best single predictor o fertility is the current age of the respondent. This is obviously due to age bein the most important factor in determining fertility. This is not a measure of th status of a woman but it has been included since this study controlled for age. It B is 0.23 and the beta weight is 0.68181 and is statistically significant (t=51.6) The coefficient of determination (r^2) for this variable alone is 0.465, indicatin that 46% of the variation in children ever born is accounted for by the age of th respondent.

The next most important variable is age at first marriage. Its beta weight i -0.266 and is statistically significant. The r^2 (multiple coefficient of deter mination), when both age of respondent and age at first marriage are included i the regression, is 0.534, indicating that over 53% of the total variation in fertilit is accounted for by the combination of the age of respondent and age at firs marriage. The addition of the independent variable, age at first marriage, add 6% additional explained variance in children ever born. It is statistically significant with t=-21.4.

Place of residence is introduced in the third step. The r^2, when age o respondent, age at first marriage and place of residence are included in th equation, is 0.548. This shows that the three variables account for about 55% i the variation in children ever born. It is statistically significant (t=-9.859). Its beta weight is -0.120. The inclusion of this variable adds about 1.4% additiona explained variance in children ever born.

No methods of contraception emerges as the fourth most important predicto of fertility. The r^2 has increased to 0.564, giving an additional 1.6% which i explained by not using any methods. Its beta weight is -0.129 and is statistically significant (t=-10.706). This finding has also been seen in the bivariate analysis.

whereby women not using contraceptives had lower fertility than women using traditional methods. It was explained that this could be due to the fact that girls at school and sterile women are included in the sample.

"Secondary education and higher" is the next variable that is included in the equation. Its beta weight is -0.075 and is statistically significant at t=-5.65. The adjusted r^2 has increased to 0.569, showing that less than 1% variation in children ever born is explained by education.

The next variable to be included in the equation is work status. Work status has been found to play a role in reduction of fertility, whether other variables are controlled for or not. Its contribution to the variation in fertility is 0.1%. Its beta weight is -0.044 and is statistically significant (t=-3.66).

The final variable to be included in the equation is use of modern contraception methods. The adjusted r^2 is 0.572. Its beta weight is -0.093 and has been found to be statistically significant with t=-3.738. The variable not statistically significant is "no education", with a t value of 1.895, which is less than 2.0. Thus, it has been left out of the final equation.

The final standardized equation reached is as follows:

$$CEB = 0.71X_1 - 0.25X_2 - 0.1X_3 - 0.21X_4 - 0.07X_5 - 0.05X_6 - 0.09X_7$$

Where: X_1 = current age of the respondent
X_2 = age at first marriage
X_3 = urban residence
X_4 = no methods of contraception
X_5 = secondary education and higher
X_6 = work status
X_7 = modern methods of contraception

Thus, fertility is inversely related to all the variables except current age of the respondent. Women working are shown to have lower fertility than women not working, which is consistent with the finding through bivariate analysis. Thus, the correlation result which shows the opposite has been ignored. The beta weights for the standardized equation also have the same relationship and all the above variables are statistically significant.

In summary, education and work status, as measures of the status of women, are negatively related to fertility. As women become more educated and work in the modern sector they tend to have smaller families. Education has a strong correlation with fertility, while work status has a weak correlation with fertility. These indicators of women's status affect fertility indirectly through age at first marriage and contraceptive use, to which they are positively related. Urban residence also has an important effect in that women in urban areas use more contraceptives and marry at a later age than rural women, leading to lower fertility. Therefore, women with more education, employed away from home and staying in urban areas have higher status and consequently, lower fertility.

Summary and conclusions

The purpose of this paper has been to study the relationship between the status of women and fertility in Zimbabwe. The status of women is regarded globally as one of the most important factors in reducing high population growth rates in developing countries, with a correlation between high status of women and low fertility. As a result, the validity of this perception has been tested by studying the status of women in Zimbabwe, where the population growth rate is high compared to economic growth.

Indicators of the status of women are varied but in this study education and employment were selected since they are found in the demographic health survey (ZDHS). These factors operate through the intermediate variables, age at first marriage and contraceptive use. Women's education and employment have been hypothesized to be positively related to contraceptive use and age at first marriage, and consequently negatively related to fertility. These hypotheses were then tested using the ZDHS data (CSO, 1989).

High levels of education are associated with high status of women. This study has shown that education of women is one of the most important variables in determining fertility. Educated women tend to use contraceptives more than women who are not educated, whilst education itself delays marriage thus reducing the reproductive period. The majority of educated women marry later than women with no education. The mean age at first marriage has been found to be 22.5 years for women with higher education and 17.5 years for women with no education, giving a difference of 5 years. Therefore, women who are educated tend to be older at first marriage and they also tend to use modern contraceptives more than the non-educated. As a result, fertility is reduced with education. Average parity for women aged 45-49 years was found to be 4.3 among women with secondary education and higher, and 7.4 among non-educated women. This demonstrates that education and subsequent increased job opportunities for women could result in fertility reduction.

Women in urban areas have higher status than women in rural areas and make more use of modern contraceptives than those in rural areas. Urban women were also found to be older at first marriage. This is due to better provision of educational facilities and better access to information on contraception in urban areas. As a result, urban women have lower fertility, due to their higher status.

Women's participation in the labour force has been found to be positively related to contraceptive use and age at first marriage. Working women have been found to use contraceptives more than those not working. The percentage of women who marry after the age of 20 is higher for women who have ever worked than for those who have never worked; 18.5% of women who worked before marriage, marry after the age of 21, compared to 11.4% of women who never worked before marriage. Working before marriage tends to delay marriage.

On average, women who have ever worked have a mean age of 18.5 years at first marriage compared with 17.8 years for women who have never worked. The effect of work status is less than that of education.

Education has been found to be an important variable in determining fertility. Women aged 45–49 years with secondary education and higher have a mean number of 4.3 children ever born compared to their non-educated counterparts who have a mean number of 7.4 children. This gives a difference of 3.1 children. The difference in mean number of children ever born between women with primary education and those with no education in the 45–49 age group is small (6.9 children compared to 7.4).

Women who are currently working bear more children than women who are not working. But, when age is controlled and other variables are considered, the net effect is negative and the overall effect is slight. Thus, work experience has little effect on fertility. This is probably due to the fact that work can be compatible with child-bearing especially among rural women. Working mothers have relatives and other children to take care of the smaller children.

Women who marry when they are older (over 21 years) have 3.4 children compared to 5.2 children for women who married before they were 15 years old. Women who marry later are educated and have worked before marriage.

Finally, the relationship between contraception and fertility did not give the expected result on the bivariate analysis. Women who have never used contraceptives had lower fertility. However, in the regression analysis, when other variables are controlled for, a negative relationship was shown to exist.

It can be concluded that education and work experience are significant factors explaining reproductive behaviour by increased age at first marriage and contraceptive use. Status of women is measured by education and work status. High status of women is associated with high levels of education and high work status. Education is the most important variable affecting female fertility.

In Zimbabwe a large number of women are illiterate. If education to secondary level was made available to every woman, the current population growth rate of about 3% would be drastically reduced.

Female participation in the labour force has a minor effect on fertility. This is due to the fact that some women are involved in the informal sector, where work is compatible with child-bearing. For work status to be very effective, women should be employed outside the home.

Implications

This study points to the need to improve the status of women, particularly through education. Women in the rural areas have low status and the least education, thus there is need to intensify education in these areas. Female education should be universal in order to achieve significant results. Once

education is improved, mean age at marriage and use of modern contraceptives will increase resulting in lower fertility. Mere expansion of education facilities does not lead to more female education unless social attitudes are also changed, since male children tend to be educated in preference to female children as boys are considered a greater economic asset to the family than girls. There is also need for a persistent challenging of those social customs, beliefs and traditions which tend to devalue women and regard motherhood as the most desirable female role (Chaudhury, 1984).

Women who attain higher status through education tend to want to practice contraception. They also tend to delay their marriages until they have developed their careers. Consequently, raising women's status through higher education is important in trying to create an environment where most women will see the need to use contraception in order to reduce family size. However, literacy among Zimbabwean women is still low, especially in the rural areas where women's status is low, and it will take some time to improve this. One obstacle to increased female illiteracy is the abandonment in 1992 of free primary education, which was introduced soon after independence in 1980. As a result, some parents cannot afford to educate their children or prefer to send sons to school, at the expense of their daughters' education. The Zimbabwe Government should reconsider this policy because it could have negative impact on female education and consequently on fertility.

Women who participate in the labour force enjoy higher status than women who are not working. Educated women have more job opportunities available to them. The status of women should be enhanced by providing work outside the home which would be incompatible with child-bearing. When women are employed outside the home, it is necessary to use contraceptives to limit family size. The problem at present is that retrenchment is taking place which could decrease women's participation in the labour force. The government should find alternative employment opportunities which include an increase in women's jobs.

It has also been found that working women show slightly higher fertility when age is not controlled. If age is controlled, working women have lower fertility than women not working. More research on this topic needs to be carried out to establish whether work status affects fertility or fertility affects work status. Enhancement of the status of women should be a government policy since it has been shown that it is important in determining reproductive behaviour among women. Raising the status of women, through higher education and employment outside the home, will lead to lower fertility.

Literature cited

Buvinic, M. 1976. *Women and World Development: An Annotated Bibliography.* Washington D.C.: Overseas Development Council.

Central Statistical Office (CSO). 1989. *Zimbabwe Demographic and Health Survey* (ZDHS). Harare: CSO.

Chaudhury, R.H. 1984. The Influence of Female Education, Labour Force Participation, and Age at Marriage on Fertility Behaviour in Bangladesh. *Social Biology* 31: 59-74.

Henin, R.A. 1973. An Analysis of the 1973 National Demographic Survey of Tanzania. *The Demography of Tanzania* 6: 9-12. Dar-es-Salaam: BRALUP and Bureau of Statistics.

Hommes, R.W. 1978. The Measurement of the Status of Women. In *Demographic Aspects of the Changing Status of Women in Europe*, ed. M. Niphuis-Nell. Leiden: Netherlands Interuniversity Demographic Institute (NIDI) and Population and Family Study Centre (CBGS) Publications.

Pavlik, Z. and J. Zborilova. 1978. Changes in Czechoslovak Marital Fertility. In *Demographic Aspects of the Changing Status of Women in Europe*, ed. M. Niphuis-Nell. Leiden: Netherlands Inter-university Demographioc Institute (NIDI) and Population and Family Study Centre (CBGS) Publications.

Shanawany, H. 1985. Women in Development: Issues with Demographic Implication. *Research Monograph Series* no. 15. Cairo: Cairo Demographic Centre.

Zimbabwe National Family Planning Council (ZNFPC). 1985. *Zimbabwe Reproductive Health Survey* (ZRHS). Harare: ZNFPC