DEMOGRAPHIC EFFECTS OF REGIONAL DIFFERENTIALS IN EDUCATION POLICIES IN NIGERIA

O. ODUMOSU
E.N. NELSON-TWAKOR
A.O. AJALA
Nigerian Institute of Social and Economic Research (NISER)

Education is no doubt one of the central tenets of modernisation and development. It is, therefore, not surprising that the government of Nigeria at independence in 1960 recognised it as being strategic for development. Education is also an important variable accounting for changes in demographic dynamics. In focusing on education as a tool for development, however, its implications for demographic change were not paid any attention, as population growth was not considered a likely problem for the future given the nation's resource base. The result is that the country is at present the most populous country in Africa and one of the ten largest in the world, with a population of over 120 million and a growth rate of three per cent (with the potential of doubling in 23 years time). The diverse socio-cultural set-up, with over 300 ethnic groups and numerous religions, makes the articulation of policies difficult not only in the educational sector but indeed for all sectors. The national policy on education which was developed in 1970 covers both formal and non- formal education and the cardinal points are the eradication of illiteracy and a free, universal and compulsory primary school education. Over the period of 39 years since independence, there has been an astronomical increase, both in the number of facilities (primary, secondary, and tertiary); and in the enrolment figures. The observed changes in the educational sector have, however, not been of the same magnitude in the different geo-political zones of the country for reasons which are highlighted later in this paper. Given the varying level of development in education, it is not expected that its influence will be the same across the zones. This research endeavour, therefore, seeks to highlight the demographic effects of varying educational development in Nigeria. To accomplish this, the paper is divided into six main parts: following this introduction is the second, which highlights the educational policies and strategies employed, the third, fourth and fifth sections relate education to fertility, mortality and labour force participation, respectively, and the sixth concludes.

Educational Development in Nigeria

As noted in the introduction, the key aspects of the national policy on education that was developed in 1970 are the eradication of illiteracy and a free, universal and compulsory primary school education. Basic education, which has been extended from six years primary school to include three years junior primary education by the Universal Basic Education (UBE) scheme of the present Obasanjo administration, has, however, never been an enforced right of the child.

The formal education system at present consists of six years primary, three years junior secondary, three years senior secondary and four years tertiary education (6-3-3-4). Funding is mainly by the government - federal, state and local - given that the majority of the institutions are publicly owned. Private individuals, religious groups and communities are also involved, especially in the southern states. Private participation was, however, banned for a while in the early 1980s. With the downturn in

the economy of the country in the mid-1980s, the financial cost borne by individuals has also been on the increase and accounts for the declining school enrolment. Prior to the existence of the state Nigeria, western educational influence was largely restricted to the south. With the amalgamation of the north and south in 1914, educational policies were regionalised even though uniformity in curricula was ensured for the maintenance of standards. The western region in 1955, followed closely by the east, launched the free primary education scheme which further boosted the enrolment figures in these regions relative to the north. By 1976, the free Universal Primary Education (UPE) scheme by the federal government replaced the regional programmes. Western education is associated with Christian missionaries and the British administrators. Prior to its introduction in the north, the system of education associated with the Islamic religion had been embraced (Tamuno, 1989). The adoption of Western education, which stressed literacy in English and its association with Christianity, raised suspicion, which persists to the present day in northern Nigeria among Islam adherents, and led to resistance in its acquisition. The observed difference in education among regions in the country has been attributed to this factor. The data in Table 1 show that primary school enrolment size as well as the sex composition display regional variations. Over the years from 1959 to 1963, the west and the east accounted for over 86-91 per cent of the total primary school enrolment figures. The female enrolment figures for the same period are lower than those for males, but in the west and east, females accounted for over 40 per cent of primary enrolments, while accounting for only 10 per cent or less of these enrolments in the north. The enrolment figures at the secondary level for the same period (data not shown) reveal the same pattern except that the figures are lower and no female was enrolled at the secondary school level between 1959 and 1963 in Northern Nigeria. The female to male ratio at the secondary level of 1:34 in 1959 is substantially wider than that observed for primary education for the same period 1:2 (FOS, 1964).

Table 1: Primary School Enrolment by Region and Sex :1959-1963

Year	*West		East		North		Total Enrolment	
	%Female	%All	%Female	%All	%Female	%All	Female	All
1959	43.8	41.3	49.7	49.7	6.5	9.0	1,019,558	2,775,938
1960	43.6	41.2	49.3	49.1	7.1	9.7	1,083,147	2,912,618
1961	46.4	43.3	45.5	45.5	8.1	11.3	1,063,468	2,803,836
1962	45.9	42.6	45.1	44.7	9.0	12.7	1,090,949	2,834,010
1963	45.2	41.7	44.6	44.2	10.2	14.2	1,124,738	2,896,382

Source: Computed from data obtained from Annual Abstract of Statistics 1964 Edition. Federal Office of Statistics (FOS).
*Figures for West include Lagos.

This regional disparity in level of enrolment and female participation has persisted to date for all educational levels. The margin observed in the early 1960s for primary education as shown in Table 1 has, however, declined substantially (see Table 2). The north (northwest and northeast) generally accounted for more than 40 per cent but less than half of the enrolment figures (even though various censuses reveal that the north has a higher population figure) for the years 1992 to 1995. Only about a quarter of those enrolled for primary school education proceeded to the secondary level in the 1990s (Tables 2 and 3), and the north account for less than a third of the secondary enrolment figures, the exception being for the year 1994 in the data presented (Table 3).

Table 2: Primary School Enrolment by Region 1992-1995

Year	North East	North West	South East	South West	Total	Total Enrolment
1992	21.2	21.0	28.6	29.0	100.0	14,806,035
1993	21.9	22.7	28.3	27.1	100.0	15,880,280
1994	23.6	22.8	27.2	26.4	100.0	16,190,948
1995	27.3	18.5	27.5	26.7	100.0	15,780,580

Source: Computed from data obtained from Annual Abstract of Statistics 1997 Edition. Federal Office of Statistics (FOS).

Table 3: Secondary School Enrolment by Region 1992-1995

Year	North East	North West	South East	South West	Total	Total Enrolment
1992	12.8	14.6	26.7	45.9	100.0	3,600,204
1993	12.9	14.3	26.1	46.7	100.0	4,032,083
1994	16.9	28.9	19.9	34.3	100.0	4,451,329
1995	13.8	15.9	29.0	41.3	100.0	4,448,991

Source: Computed from data obtained from Annual Abstract of Statistics 1997 Edition. Federal Office of Statistics (FOS).

Although the trends in enrolment at all levels have been upward, variations can be observed at different levels. The highest expansion is at the primary level, especially during the oil boom (1970s-early 1980s). Primary school enrolment rose within two decades from approximately three million in 1962 to over 15 million in 1981/82. Declines in enrolment for both primary and secondary education have been observed since the mid-1980s due to the poor economic status of the nation, while the reverse obtains for tertiary education. Education facilities which tended to expand rapidly over the years, have slowed down.

Despite the observed increase in enrolment at the various levels of education, the illiteracy rate remains high in the country. The *1990 Nigerian Demographic and Health Survey* (NDHS) reveals that one half of the population has no formal education, the proportion being higher for females compared to males. Major differences are also observed by regions of the country; the north generally is more disadvantaged than the south. The southwest has the highest proportion with formal education for both males and females and also of the highest median number of years of schooling attained (Table 4).

Table 4: Proportion of Nigerians with no Formal Education and Median Number of Years Attained by those with Formal Education, by Sex and Region

	Region				
Sex	North East	North West	South East	South West	All
Male	65.5	72.5	26.8	17.8	43.3
Female	82.0	86.6	43.1	29.7	58.2
Median No. of Years					
Male	0.7	0.7	3.6	6.0	1.2
Female	0.6	0.6	1.0	3.6	0.8

Source: The NDHS 1990

The World Bank (1992) estimates the adult illiteracy rate at 49 per cent for the entire population and 61 per cent for females in 1990. The 1991 census reveals an illiteracy rate of 43 per cent for males and 52 per cent for females, with regional variations observed. While literacy rates of 32-50 per cent are observed for most parts of the north, rates of between 50-70 per cent obtain in most states in the south. Lagos, Delta, Rivers and Anambra states in the south have the highest rates of 70-82 per cent. Only Kano, Kaduna and the Federal Capital Territory (Abuja) in the north (states with a high influx of migrants from the south) have moderate rates of 50-70 per cent (NPC, 1994).

Special programmes such as the mass literacy campaign, the nomadic education programme for children of migrant cattle herders and fishing communities in riverine areas, the quota system applied in admission into certain secondary and higher institutions, have had limited success in the reduction of regional disparities.

Other problems of the education sector include that of funding, especially with the introduction of the Structural Adjustment Programme (SAP) which necessitated reduction in social expenditure by government. This has also impacted negatively on the quality of output. Specific problems confront the north and the east. While the need is to improve female participation in the north, in the east the need is to curb the male dropout rate for economic ventures. This is in addition to improving the enrolment level and quality of education provided generally. The lack of a national language and continued use of English for educational purposes as against indigenous languages are viewed as being detrimental to developmental aspirations (Afolayan, 1989). This is because one's mother tongue is viewed as being the ideal medium of education (Tomori, 1973, Afolayan, 1989).

Education and Fertility

Education, particularly that of women, is recognised as an important determinant of reproductive behaviour. Empirical evidence from both developed and developing countries tends to show inverse relations hips between education and fertility, although variations have been observed (Cochrane, 1979). The strength of observed associations may be influenced by the level of development, aggregate level of literacy, social structure and the cultural milieu (Cochrane, 1979; Cleland and Rodriguez, 1988). While the influence of education is indirect through other proximate determinants (Bongaarts,1978) such as age at marriage, desired family size, status of women and contraceptive use, it may also have a direct influence.

Nigerian society is characterised by a high level of fertility, with an average of six children per woman. With a culture of universal marriage and low contraceptive prevalence, age at marriage is invariably an important factor in the timing and level of fertility. There is considerable variation between the north and the south in age at marriage. Both the Nigeria Fertility Survey (NFS) and the NDHS as indicated in Table 5 confirm a much lower age at first marriage for the north compared to the south - a difference of at least four years. By implication, since child birth is expected to follow soon after marriage, the mean age at first birth for both surveys is also lower in the north (17-19 years) compared to the south (20-21 years).

The observed difference in age at marriage is explained by the difference in the level of education, as it is also observed to increase steadily with increasing education, with a difference of almost ten years between females with no education and those with secondary and higher education (FOS & IRD,

1992). Singh and Samara (1996) note a positive relationship between age at marriage of individuals and the societal development level and education.

Table 5: Age at First Marriage and First Birth by Region

Age at first birth and marriage	Region			
	North east	North west	South east	South west
Mean age at first birth [a]	18.8	19.5	19.6	20.5
Mean age at first birth [b]	17.2	17.0	20.2	19.8
*Median age at first marriage [a]	14.9	15.4	19.3	20.5
*Median age at first marriage [b]	14.9	14.7	17.2	18.5

Source: NDHS 1990 [b] NFS 1981/2 * Median age at marriage is for women aged 25-29 years

While the NDHS, using the crude birth rate (CBR) and total fertility rate (TFR), reveals that higher fertility obtains in the north relative to the south, the picture obtained from the NFS (1981/2) is less clear. Both surveys, however, confirm that the southwest has the lowest CBR, while the highest CBR obtains in different parts of the north. A TFR difference of at most one child between the north and south is observed using the NDHS data (Table 6). The 1991 census also confirm that the southwest has the lowest TFR.

Table 6: Socio-Demographic Indicators by Region

Region	CBR [a]	CBR [b]	TFR 15-49 [a]	TFR 15-49 [b]	TFR 15-49 [c]	Contraceptive use [a]	Contraceptive use [b]
North east	39	54	6.5	6.0	6.2	2.0	0.6
North west	46	47	6.6	6.4	6.4	1.2	5.4
South east	37	47	5.6	5.7	6.3	8.8	12.7
South west	32	44	5.5	6.3	5.7	15.0	7.6
All	39	45	6.0	5.9	5.9	6.0	6.2

Source:[a] NDHS 1990 [b] NFS 1981/2 [c] NPC 1998

With respect to education, a substantial fertility difference between women with no formal education and those with the highest level of education is observed. The relationship is, however, not completely linear. The NDHS data indicates that women with a few years of primary education have slightly higher fertility than those with no education. A similar pattern occurs also for the NFS data (Table 7). Multivariate analysis of the Nigerian data from the World Fertility Survey (WFS) confirms regional variation in fertility and fertility is observed to be positively related to education in the north, while the reverse obtains in the south (Adewuyi, 1986).

Current use of contraception is clearly higher in the south compared to the north. While the southwest has the highest level of use in the 1990 NDHS, the southeast has the highest proportion reporting use in 1981/2. As expected, education has a positive effect on contraceptive use (Table 7). The small difference observed in fertility for the north and south in spite of the difference in age at marriage and use of contraception is achieved through shorter birth intervals in the south (21.4 months) compared to longer birth intervals in the north (48.1months) (Adewuyi and Isiugo-Abanihe, 1990). Ideal number of children is also higher in the north compared to the south (a difference of at least two children) and

declines with increasing education (FOS & IRD,1992). While support for fertility control has been enhanced by the harsh economic reality of the day, religion, particularly, Islam, remains a major obstacle (Odumosu *et al.*, 1998).

Table 7: Socio-Demographic Indicators by Education

Education	TFR [a]	TFR [b]	*Contraceptive use[a]	*Contraceptive use [b]
No education	6.5	6.1	2.0	4.7
some primary	7.2	6.8	7.8	10.4
completed primary	5.6	7.6	10.5	9.6
some secondary	5.1	3.9	17.0	----
completed secondary/higher	4.2	N/A	24.4	18.7
Total	6.0	5.5	6.0	6.2

Source: NDHS, 1990 [b] NFS 1981/2 *Current use of any method

On the basis of the regional differentials in the population indices from the NDHS, Odumosu and associates (1996) conducted a survey using a Focus Group Discussion (FGD) approach. A state was selected to represent the north and another to represent the south. The study revealed that public policies, particularly health and education, are critical for lowering demand for children. They also observed differences in attitudes towards population control policies among the general public and policy makers in the north and south. The attitude in the north is generally against population control policies and this is attributed to the linkage between national revenue sharing schemes, political representation and population size which is to their favour. Given the low level of formal education in the country, the use of informal education through the mass media for programme education should have some influence. Access to the media is, however, reported by the NDHS to vary by region - the south is at an advantage - and actual use of the media is also reported to vary by region. Odumosu and associates (1996) also note poor use of the media for informal population education in the north (Borno State).

Education, Mortality and Child Health

Nigeria, like most developing countries, lacks quality data on mortality. There is, however, no doubt that mortality has declined over the years, although it remains high and the opportunity for further declines exists. The observed decline in mortality accounts for the improvement in life expectancy to an average of 53 years in the 1990s (NPC, 1998), a long way from the 75 years that obtains for Europe. The crude death rate (CDR) has declined from 27 per 1000 in the 1960s to about 14 in the 1990s, and the observed rate varies by region. The 1991 census reveals that the south, as compared to the north, has a lower CDR. Specifically, the southwest has the lowest rate of 9.1 per thousand, and is followed by the southeast with 9.9, the northeast at 14.2, and the northwest with 14.5 (NPC, 1998).

Education is also negatively related to mortality, particularly maternal education and child mortality. Maternal education is thought to act through more effective utilisation of health facilities due to improved awareness, understanding and effective participation in decision making, and child care (Caldwell, 1979; Caldwell and Caldwell, 1985; Ware, 1984). The most detailed information on health

status in Nigeria comes from the Demographic and Health Survey (DHS), which is copiously referred to here.

Infant and child mortality of 91 and 191 per thousand, respectively, for Nigeria is generally high, especially when compared with that of developed countries in Europe and other developing countries such as Kenya, Brazil and Zimbabwe. These rates also vary by region in the country with the north recording higher rates than the south. The highest infant mortality rate is observed for the northwest (110) followed by the northeast (88). The highest rates observed for under-five mortality also obtain in the north (Table 8). Those differences are partially explained by the low use of health facilities for child birth and related activities.

As shown in Table 8, almost 90 per cent of births take place at home in the north compared to 38 per cent in the southeast and 25 per cent in the southwest. Over 50 per cent of women in the north do not have any assistance during delivery and have no ante natal care as against under 20 per cent in the south. As we pointed out earlier, teenage pregnancy is more prevalent in the north compared to the south. The associated dangers such as anaemia, obstructed labour and delivery would lead to higher child and maternal mortality in the north compared to the south. An estimated maternal mortality rate of 1,000/100,000 births obtains in Nigeria (Harison, 1997).

The likelihood of a child being immunised is higher in the south compared to the north. While 45 per cent of the children in the southwest are completely vaccinated, this is the case for only 18 per cent in the northwest. The likelihood of being chronically undernourished is also higher in the north compared to the south by a difference of about 15 percentage points (FOS & IRD, 1992).

For infant and under five mortality, immunisation and nutritional status of children are both positively related to the educational status of mothers. Women without any formal education have twice the proportion of children who are chronically undernourished as compared to women with secondary or higher education. Similarly, infant mortality for women with secondary or higher education is approximately half that of women with no education. In addition to the education factor, the distribution of health facilities and resource availability, which is skewed in favour of the south, would explain differences in the use of health facilities and hence some of the observations made here. While an estimated 35 per cent of the population have access to modern health services, a disproportionate proportion (over 80 per cent) of the resources are located in the south (World Bank, 1994). The sex of medical personnel may constitute a further hindrance to the use of health services by females for childbirth and related services, especially in the north. Increasing cost of health care in recent times due to the economic recession has affected the general use of health services in recent times, with negative implications for health, particularly, children's health.

Although comprehensive data on the prevalence of HIV/AIDs is not available, the virus constitutes a major threat to further increase mortality in the country. The use of informal education is essential for controlling the spread of HIV/AIDs.

Table 8: Health Indicators by Region and Mother's Education

Background characteristics	Infant mortality	Under-five mortality	Home as place of delivery	No assistance during delivery	No ante natal care	Chronically under-nourished
Region						
Northeast	87.7	214.6	88.6	56.1	54.7	51.9
Northwest	109.8	244.4	89.5	63.5	52.4	50.4
Southeast	82.7	143.7	38.4	15.9	19.6	36.6
Southwest	84.6	167.2	24.9	15.7	7.7	35.6
Mother's education						
No education	95.9	210.1	80.2	51.4	49.7	48.1
Some primary	97.5	191.1	40.3	22.2	17.9	38.6
Completed primary	79.8	137.7	37.7	21.2	15.0	39.7
Some secondary	92.9	149.8	17.6	9.3	8.6	35.9
Completed Secondary/higher	48.6	77.3	12.6	5.7	2.6	23.1
All	91.4	191.0	61.9	38.6	34.8	43.1

Source : NDHS, 1990

Education, Labour Force Participation and Population Change

Demographic factors are the primary determinants of manpower supply, while education serves to improve its quality and influence its distribution between various sectors - formal and informal. The influence of labour force participation on population change is based on the influence of education on female labour force participation and its effect on fertility. While evidence abounds on the negative association between women's work and fertility in more developed countries, mixed conclusions are observed for developing countries (Standing, 1981). The role incompatibility between women's work and child care is used to explain the negative association. The strength of the observed negative association depends on the level of economic development. Factors such as marital status, age at marriage and age at first birth, education, the number and ages of children, availability of employment opportunities and the suitability of employment and socio-cultural norms and values, are all identified as affecting female labour force participation. Sheehan and Standing (1978), note that while marital status and fertility are not necessarily important constraints on women's economic activity, social and environmental factors have a strong influence. Increasing education is also associated with increased participation.

Detailed statistics on the labour force in Nigeria are obtainable from census reports. It should be noted that census errors may differ across regions and underestimation of women's participation is likely exist to in different magnitudes. Caution in the comparison of the data is essential. An increase of 13 percentage points in the share of females in the labour force in Nigeria is observed when the census figure for 1963 (24 per cent) is compared to 1991 (37 per cent) (FOS, 1968; NPC, 1998). Regional variations of women in the labour force are also apparent for both census periods. In 1963, the share

of women in the labour force was 12.6 per cent in the north, 28.5 per cent in the east, 41.0 per cent in the west, 24.7 per cent in the mid-west, and 23.9 per cent in Lagos. By 1991, women in the northeast represented 14.4 per cent of the labour force, compared to 18.1 per cent in the northwest, 40.9 per cent in the southeast, and 55.0 per cent in the southwest.. The share of women increased in all regions over time, the north consistently had the lowest representation of women, while those in the west (as of 1991, the southwest comprising the mid-west, west and Lagos) had the highest contribution. The observed differences could be explained by the more independent role of Yoruba women (Sheehan and Standing, 1978), the religious inclination of the north (Islam), which restricts women's outdoor activities, and differences in educational attainment.

Given the low access of women to education, their participation in the formal sector remains low, particularly in the north. The 1991 census reveals that three-quarters of women as against two- thirds in 1963 are engaged in sales, agriculture and agricultural-related work, sectors which are compatible with child rearing. Regional variation also occurs in women's informal participation, such as agriculture, trade, processing and crafts. The proportion of women engaged in professional/technical and administrative/managerial work increased from 2.0 to 6.1 and 0.0 to 1.5 per cent, respectively, an indication of improving educational attainment of females.

Children are increasingly participating in the labour force, hence contributing to personal and family upkeep. Child labour is also an indicator of school dropouts and non enrolment and it has direct and indirect influences on fertility. While high labour value of children could lead to high fertility, especially in an agrarian society, through reduction in time spent in school, particularly for female children, marriage can be early and fertility, in turn, high. Child labour value is an important correlate of high fertility in India (Naidu, 1986).

The 1991 census revealed that seven per cent of those aged 10-14 years are economically active and by ages 15-19, the activity rate is as high as 21.5 per cent. The activity rate is higher for males compared to females. At ages 10-14, the activity rate is eight per cent for males and six per cent for females, and for ages 15-19, it is 25 per cent for males and 18 per cent for females. They are mainly employed in agriculture and related work. Other activities include sales and services provision (NPC, 1998). Variation among regions is expected given the assumption of a correlation between education of the household head and children's economic activity rate. This relationship needs to be explored. The 1991 census data will be of relevance in this regard, although it is not currently available for further analysis by individual/private researchers.

Conclusion

Education, has an important role to play in the progress of any nation that aspires towards development. A conflict which deserves attention seems to arise in the promotion of education for development purposes vis-à-vis population control activities as regards finance. This is because Nigerian's desire to curb fertility has increased more in the last decade with the effect of the Structural Adjustment Programme (SAP) felt through the increased cost to individuals of social services such as education and health. At the same time, enrolment at the primary and secondary school levels has tended to be negatively affected, which could lead to a possible increase in illiteracy. Education is necessary for further mortality decline which would serve as a required signal for reduction in fertility.

The basic education requirement for a citizen cannot be compromised in any event. While some improvements in education were witnessed over the years, the economic problems of the nation and the implementation of the SAP seem to have put a halt to these achievements. There is therefore the need to improve on school enrolment and literacy in the country which at present displays large regional and gender differentials. The importance attached to the language used for educational purposes deserves serious attention. There is no doubt that the use of indigenous languages will enhance literacy rates and maximise the effectiveness of education. The requirements for its adoption vis-à-vis other developmental activities must be balanced. It is posited that the cost implication of its adoption cannot be borne by the Nigerian government at present or in the foreseeable future. This is because instructional materials have to be developed, teachers retrained, coupled with the requirement of adoption of multiple languages which is an awesome responsibility. In view of this, the use of persuasion, by using community leaders who command respect to improve enrolment level, is advocated. Odumosu and associates (1996), contend that such an endeavour would be effective.

In addition, the constitution should enforce basic education rights to assist in the improvement of enrolment. At present, the constitution's position, "Government policy shall be towards ensuring that there are equal and adequate educational opportunities at all levels", is not adequate, especially in ensuring continuity in whatever improvement is achieved from one period to another. Increased enrolment will also serve to lower the use of child labour. Finally, the educational programme of the nation should be made more practical-oriented. The adoption of the 6-3-3-4 system was meant to achieve this, but the effect is yet to be really felt after a decade of practice.

The difference in educational status, especially of women in different regions is reflected in fertility and mortality indices. On average, a fertility difference of one child exists for women in the north compared to the south. The observed change in fertility level has been attributed to female education (Orubuloye, 1995). Age at first marriage, age at first birth, ideal family size, knowledge and use of contraception, and female labour force participation are lower in the north compared to the south. Other differences relate to use of health facilities, infant and child mortality, and immunisation and nutritional status of children, all of which favour the south. The promotion of education, particularly that of females, through both formal and informal media, would have a positive influence on these variables. The increase in basic education from 6 years to 9 years is commendable and should impact on demographic variables such as fertility and mortality. The enforcement of the policy is, however, necessary. Further research to identify the minimum education which is required to bring about desired change and its interaction with other socio-cultural variables is recommended.

Aside from the provision of education, there is the need to expand the scope of coverage and access to health services to reduce infant and maternal mortality. Caldwell and Caldwell (1985) have noted the considerable joint effects of maternal education and health services. The provision of employment opportunities in the formal sector for women would also have the effect of reducing the level of fertility.

References

ADEWUYI (A. A.) , 1986 - "Education and fertility : the Nigerian case". *Ife Social Sciences Review* 9(1-2) p. 29-45.

ADEWUYI (A. A.) and ISIUGO-ABANIHE (U.C.), 1990 - *Regional Patterns and Correlates of Birth Interval Length in Nigeria*. Canberra, Australian National University, Research School of Social Sciences, Department of Social Sciences, Department of Demography, International Population Dynamics Program Research Note No. 107.

AFOLAYAN (A) 1989 - "Language and Education: Policies, Problems and Prospects", in *Nigeria Since Independence: The First 25 Years - Education*. Vol. III, eds, Tamuno (T.N.) and Atanda (J.A.), Hienmann Educational books (Nigeria) Ltd; Ibadan, p. 157-184.

BONGAARTS (J), 1978 - "A Framework for analyzing the proximate determinants of fertility" *Population and Development Review*, 4 (1) 105-132.

CALDWELL (J.C.), 1979 - "Education as a factor in mortality decline: an examination of Nigerian data", *Population Studies*, 33 (3) 395-413.

CALDWELL (J.C.), and (P) CALDWELL, 1985 - Education and Literacy as Factors in Health in Halstead (S.B.), Walsh (J.A.) and Waren (K.S.) eds, *Good Health at Low Cost*, Rockefeller Foundation, New York, p 181-5.

CLELAND (J) and RODRIGUEZ (G), 1988 - "The Effect of parental education on marital fertility in developing countries", *Population Studies*, No 42 (3) 419-42.

COCHRANE (S.H.), 1979- Fertility and Education: What Do We Really Know? World Bank Occassional Papers No 26 The john Hopkins University Press, Baltimore, 175 p.

FEDERAL OFFICE OF STATISTICS (FOS), 1964 - Annual Abstract of Statistics 1964 Edition. Federal Office of Statistics (FOS), 204 p.

FEDERAL OFFICE OF STATISTICS (FOS), 1968 - *Population Census of Nigeria, 1963, General Report*, Vol. 5, p. 109.

FEDERAL OFFICE OF STATISTICS (FOS) & INSTITUTE FOR RESOURCE DEVELOPMENT (IRD), 1992 - *Nigerian Demographic and Health Survey (NDHS) 1990*, Lagos, Nigeria and Macro Systems, Columbia, Maryland, 243 p.

HARISON (K.A.), 1997 - Maternal mortality in Nigeria: the real issues, *African Journal of Reproductive Health*. March 1(1) 7-13.

NAIDU (D.A.), 1986 - "Child Labour and Fertility" in *Fertility and Mortality: Theory, Methodology and Empirical Issues*. eds MAHADEVAN (K), REDDY (P.J.) and NAIDU (D.A.) New Delhi, India, Sage Publications.

NATIONAL POPULATION BUREAU (NPB) & WORLD FERTILITY SURVEY (WFS), 1984 - *The Nigeria Fertility Survey (NFS), 1981/2: Principal Report. Vol. 1, Methodology and Findings.* National Population Bureau, Lagos and World Fertility Survey, International Statistical Institute, 252 p.

NATIONAL POPULATION COMMISSION (NPC), 1994 - *Census '91 National Summary*, Lagos: NPC, 65 p.

NATIONAL POPULATION COMMISSION (NPC), 1998 - *Population Census of the Federal Republic of Nigeria: Analytical Report at the National Level*. NPC, Abuja, Nigeria, 455.

ODUMOSU (O), ROBERT (F.O.N.) and JEGEDE (A.S.), 1996 - "Regional Differentials and the Implementation of the National Policy on Population": A Pilot study of Borno and Oyo States of Nigeria. In *Population-Environment Interactions in Nigeria.* eds, Phillips (A.O.) and Ajakaiye (D.O.). NISER, Ibadan, p. 7-41.

ODUMOSU (O), ROBERTS (F.O.N.), SIMBINE (A.T), BENJAMIN (S.A.), OMISAKIN (I.S.), NELSON-TWAKOR (E.N.), and AJALA (A.O.), 1998 - *Demographic and economic characteristics of households in Nigeria.* Population Research Fund Management Unit, NISER, Ibadan, 103 p.

ORUBULOYE (I.O.), 1995 - "The demographic situation in Nigeria and prospects for fertility transition" *Journal of International Development.* Vol 7, No 1, 135-144.

SHEEHAN (G) and STANDING (G), 1978 - "A note on economic activity of women in Nigeria". *Pakistan Development Review*. Summer 17(2): 253-61.

SINGH (S) and SAMARA (R), 1996 - Early marriage among women in developing countries" *International Family Planning Perspectives* 22, 4:148-175.

STANDING (G), 1981 - "Fertility and Female Labour Force Participation". In *Labour Force Participation and Development*. 2nd Ed. Geneva, Switzerland International Labour Office. 165-206.

TAMUNO (T. N.), 1989 - A New Nation and the Learning Process, in *Nigeria Since Independence: The First 25 years - Education.* Vol III, eds, Tamuno (T.N.) and Atanda (J. A.), Hienmann Educational Books (Nigeria) Ltd; Ibadan. p. 1-8.

TOMORI (S.H.O.), 1973 - The Role of Language in Education, University of Ibadan Inaugural Lectures 1972/73, Ibadan University Press, 16 p.

WARE (H), 1984 - "Effects of maternal education, women's roles, and child care on mortality", in Mosley (W.H.) and Chen (L.C.), eds, *Child Survival : Strategies for Research. (Population and Development Review)* p. 191-214. Supplement to vol. 10.

WORLD BANK, 1992 - *World Development Report 1992: Development and the Environment*, New York, Oxford University Press. 308 p.

----------, 1994- *Nigeria: Social Sectors Strategy Review*, Africa Region, West Central Africa Department Population and Human Resources Division, 138 p.