1.1. Statement of the Problem

It has been reported that the relatively high levels of fertility still observed in Africa, especially in Sub-Saharan Africa (SSA), have more to do with the combination of cultural and socio-economic factors that determines the attitudes and behaviour of people towards procreation. This situation makes Africa to be the last region of the world to have embarked on demographic transition (ECA, 2001).

Ohadike (1996) stated that, for Africa in general, two distinct fertility trends are emerging. One is the declining trend in some of the countries of Northern Africa to which should be added the declining trend in Southern Africa. The second trend is the continuity of the high and constant rate of above six births per women prevailing in Sub-Saharan Africa. Most of the countries whose levels of fertility were considered to be high have adopted population policies for fertility regulation or family planning services (ibid).

Nevertheless, the critical question is why no progress has been made in spite of the efforts, even if limited, and indeed in spite of governmental participation and declarations at world population conferences and other politically focused meetings. Obviously, the persistence of high fertility levels reflects the timing of policy or program initiation, program dimensions, extent of implementation and effectiveness, political will and a whole range of socio-economic factors.
In Rwanda, population policies have been attempted over the past 40 years. As May(1996) reported, the various population policies began with efforts by Belgium during the colonial period to encourage emigration to neighbouring countries such as Zaire. The closing of borders after independence in the early 1960s ended this policy. A second resettlement policy, "paysannats," was attempted in 1963, and entailed resettling people to areas with land available for cultivation. This was discontinued after only a short period because demand for participation exceeded the available land (given that the population density of Rwanda is estimated at 292 inhabitants per square kilometre). Policy aimed directly at slowing demographic growth was initiated only in 1981, when the government launched a national family planning program. Although slow in getting started, this program appears to have contributed (along with delays in marriages due to lack of land) to the modest declines in fertility observed by the early 1990s. However, as mentioned earlier, fertility remained high.

Recently, findings from census and surveys carried out between 1978 and 2000 show that in Rwanda there is a drop of fertility from 8.5 to 5.8 respectively. Among the causes of this decline, the decrease of index of marriage has been recalled as a major factor to influence fertility decline. The latter, decreased from 63.9% in 1978 to 48.4% in 2000. However, the decrease of index of marriage in Rwanda is a consequence of ethnic conflicts characterised by mass killings over 30 years and 1994 genocide. This was likely to involve an increase of widowhood because men were more exposed to killings during the war.

In Rwanda, the use of modern method of contraception is still low. According to 2000 RDHS, the level of use for modern methods of family planning has declined sharply
since the first DHS survey in 1992, with the proportion of women users having dropped from 13 percent to 4 percent. The socioeconomic disorganization of the country, and particularly of family planning services after the genocide of 1994, is in part responsible for the drop in prevalence.

The level of mass education, particularly that of women is critical in Rwanda. According to 2000 RDHS, the proportion of women and men over the age of 5 who have never attended school was high (35 percent and 28 percent, respectively). Scarcely one in 10 women and 12 percent of men have completed the primary level. Moreover, only 35 percent of boys and 36 percent of girls who were 7 years old attended school. Before the age of 14, little difference in school attendance was observed between the sexes. However, starting at age 15, school attendance rates diminished much more rapidly for girls; consequently, the educational gap between girls and boys widens.

The high fertility level and the absence of a significant decline of fertility in Rwanda are the consequences of a number of constraints such as early marriage, limited use of contraception, high demand for children (due to high infant mortality, traditional beliefs, illiteracy) and the low level of education as mentioned above. In the case of countries that have rapidly experienced fertility decline, many pragmatic and positive policies have been pursued. These include provision of universal and free primary education, the efforts to close the gender gap in accessing education and employment particularly for women, primary health care and child health. As noted Jejeebhoy and Cleland (1995), of all the indicators of socio-economic status, maternal schooling has been most widely used by demographers as the single most powerful predictor of the
reproductive behaviour of women. This study therefore intends to examine the contribution of women’s education to observed Rwandan fertility, using the 2000 RDHS.

1.2. Research questions

This study is mainly based on two primary questions as follows:

1. What are the determinants of current fertility level in Rwanda?
2. To what extent does women’s education contribute to fertility decline vis-à-vis husband’s education, women’s employment, infant survival, the type of residence (rural, urban) and religion in Rwanda?

1.3. Objectives

1.3.1. General objectives

The overall objective of the study is to determine the effect of women’s education on fertility in Rwanda.

1.3.2. Specific objectives

i. To estimate current level of fertility in Rwanda;

ii. To identify the proximate determinants of fertility in Rwanda;

iii. To examine the extent to which women’s education and other factors contribute to fertility behaviour in Rwanda.

1.4. Justification of the study

In Africa, rapid population growth is considered to be one of the most basic causes of underdevelopment. Africa is the region where the growth rate is the highest of the world. The high growth rates is associated with the delayed demographic transition where the shift towards low mortality and fertility rates occurs when there is a process of overall modernization resulting from education, urbanization, empowerment of women and overall socio-economic development.
According to the World Bank (1994), in Rwanda, rapid increase in population is a major constraint to achieving sustainable development because it leads to increased investments in basic services such as health and education just to keep up with the population consuming scarce resource, increased pressure on marginal lands increasing erosion and deforestation problems, pauperization of families as land is divided among heirs in each generation. Given this situation, one way to encourage development and to address the problem of rapid population growth and high fertility is by conducting research on the determinants of fertility in Rwanda.

A wide range of empirical studies showed that raising level of education especially women’s education has important effect on fertility through its proximate determinants. Indeed, women’s education tends to increase the age at first marriage and plays a positive role of contraceptive use. Women’s education also affects child survival through the availability of health care, nutrition and the disease control.

Several studies carried out in Sub-Saharan Africa showed that women’s education exerts a negative influence on fertility. For example, Edwards (1996) reported an analysis from a DHS conducted between 1985-1989 in 25 developing countries and showed that in these countries, educated women marry later than uneducated one. The Survey, revealed that in Sub-Saharan Africa, the percentage-point differences in use of modern methods between the least and the most highly educated women are large. In Rwanda, demographic research is skeletal especially coming from the background of the genocide. Demographic research is not developed in the country and therefore it is not surprising that education-fertility relationship is not known.
1.5. **Hypothesis**

Women’s education is more likely to contribute to the reduction of fertility in Rwanda.

1.6. **Definition of terms**

1. Fertility is referring to a number of children born to women. In fertility studies fertility means the actual reproductive performance of women.

2. Fecundity is the physical ability to reproduce.

3. Proximate determinants: consist of all biological and behavioural factors through which the background variables must operate to affect fertility (Bongaarts, 1983, p.515). The principal characteristic of a proximate determinant is its direct influence on fertility.

4. Socioeconomic determinants: include the social, cultural, economic variables and affect fertility only indirectly by modifying the proximate determinant.

5. Children ever born (CEB) refers to all children born to a woman, whether in or out of marriage, whether born in a present or a previous marriage or union, and whether living or dead at the time of the census. Stillbirths are not included.

6. Total fertility rate (TFR) means the number of births that a woman would have if she survived all her reproductive years and experienced the age specific fertility rate prevailing in a given period.

7. Education refers to the level of schooling completed or the highest post-school qualification obtained by the woman.

1.7. **Study limitations**

This study is a secondary data analysis of the Rwandan Demographic and Health Survey carried out in 2000. The 2000RDHS was a nationally representative survey of women aged 15-49 and men aged 15-59. The available DHS data offer a good
opportunity to explore the association between fertility and the key proximate and socioeconomic variables. Nevertheless, the RDHS does not collect data on induced abortion which is among the proximate variables defined by Bongaarts’ model. In addition, during the 2000 RDHS, in depths questions were not asked and the variable measurement as defined by the DHS suffers from normal problems of data from developing countries.

1.8. General presentation of Rwanda
Rwanda is a landlocked country situated in central Africa. Also known as the land of a thousand hills, Rwanda has five volcanoes, twenty-three lakes and numerous rivers, some forming the source of the River Nile. The country lies 75 miles south of the equator in the Tropic of Capricorn, 880 miles as the crow flies west of the Indian Ocean and 1,250 miles east of the Atlantic Ocean literally in the heart of Africa. Rwanda is bordered by Uganda to the north, Tanzania to the east, Burundi to the south and the democratic Republic of Congo to the west.

With a total population of 8,128,553 inhabitants living on a total surface area of 25,312 square kilometres, Rwanda had an overall population density of 321 persons per square kilometre in 2002, which is among the highest in the continent. In fact, of this total surface area, only 21,502 square kilometres are available or habitable, that is when the areas occupied by water and by forest reserves and parks have been excluded. Thus the density per habitable surface area becomes 378 inhabitants per square kilometre.

The Republic of Rwanda comprises twelve Provinces as shown in the figure 1. These are: Butare, Byumba, Cyangugu, Gikongoro, Gisenyi, Gitarama, Kibungo, Kibuye, Kigali Rural, Ruhengeri and Umutara. The capital of Rwanda is called Kigali city.
1.9. Organisation of the study

Besides the general introduction and the conclusion, this study embodies seven chapters. The first Chapter includes the statement of the problem, research questions, objectives of the study, justification of the study, hypothesis, definition of terms, study limitations, general presentation of Rwanda and the organisation of the study. The second Chapter which explores the literature review and the theoretical framework provides an overall view of the relationship between women’s education and fertility though proximate determinants. It also investigates the theory of modernisation. The third Chapter presents in details various methods and techniques used to collect and analyse the data. The fourth Chapter deals with the respondents’ characteristics, whereas the fifth, sixth and seventh Chapters respectively present the proximate determinants of fertility in Rwanda, the socioeconomic determinants of fertility in Rwanda, and the findings’ discussion.