

Socio-economic and demographic determinants of fertility in Traditional
Authority Areas

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Submitted in partial fulfilment of the academic requirements for the degree of Masters in
Population Studies

College of Humanities

School of Built Environment and Development Studies

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Durban, South Africa

September 2016

Declaration

Submitted in partial fulfilment of the requirements for the degree of Masters in Population Studies, in the School of Built Environment and Development Studies, University of KwaZulu-Natal, Durban, South Africa

I declare that this dissertation is my own unaided work. All citations, references and borrowed ideas have been duly acknowledged. It is being submitted for the degree of Masters in Population Studies in the College of Humanities, School of Built Environment and Development Studies, University of KwaZulu-Natal, Durban, South Africa. None of the present work has been submitted previously for any degree or examination in any other University.

Student signature

Date

Abstract

While South Africa has the lowest fertility rate in Sub Saharan Africa, the observed fertility decline in traditional authority areas is occurring at a slow pace. Poverty and unemployment are amongst the biggest challenges faced by women and young people growing up in traditional authority areas. The key to understanding the level and determinants of childbearing amongst women living in traditional authority areas is to understand the context within which they live. Thus, this study aims to identify the extent of childbearing amongst childbearing aged women between the ages 15-49 living in traditional authority areas. In addition, it examines the factors contributing to the experienced level of childbearing in traditional authority areas. The data used for this study is based on wave three of the National Income Dynamics Study (NIDS) which was conducted in 2010. The methods of analysis that have been used in this study include chi square analysis to identify whether a significant association exists between the dependent variable – ever given birth and the various independent variables. Bivariate and multivariate logistic regression analysis is also conducted to investigate the odds of experiencing childbearing for females' aged 15-49. Based on the results of the bivariate and the multivariate regression model; age, mothers' occupation, religion, employment status, marital status, and socio-economic status are critical variables affecting women's reproduction. In traditional authority areas women with only primary level education were found to have higher likelihood odds of childbearing when compared to women with secondary education. Moreover, in rural formal areas, traditional authority areas, urban formal areas and urban informal areas the likelihood odds of fertility seemed to increase with the increase in economic status. Since education, mothers' occupation, employment status and socio-economic status have been found to be important in determining fertility; the South African government has a responsibility of developing female traditional authority dwellers with information and skills that would make them employable and, also disseminate vital information that would make women aware of government cash transfers that they may be eligible for. The South African department of education has a responsibility to straighten the quality of education that is offered in rural areas and also to ensure that resources are available for effective learning.

Acknowledgements

I would like to express my gratitude to everyone who has assisted me through this journey. It is through the support and assistance that I have received from people around me that has led to the completion of this thesis.

I am particularly indebted to the following people:

- To God, for guidance and courage to pursue this master's degree.
- To my late parents, Cawekazi and Mfaniseni Nzama. I am grateful for your motivation and love. It is because of your belief in me that I am able to start my next journey with confidence and determination.
- To my sisters, Xoliswa, Phindile, Zodwa, Mafuze, Ningi, Nomali, Sbongile and brother, Siphon thank you for your love, guidance and encouragement. I am blessed to have you in my life and grateful for your unwavering motivation and support. Thank you for believing in me.
- To my supervisor, Professor Pranitha Maharaj. Thank you for your time and patience. Most importantly, thank you for your thoughtful insights and valuable support which has been indispensable throughout this process. From you, I have learnt a lot.
- To the Masters Population class of 2013, thank you for being amazing in your own special way. I am grateful to have met all of you.

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List of acronyms

ANC	African National Congress
AIDS	Acquired Immunodeficiency Virus
HIV	Human Immunodeficiency Virus
NRDS	National Rural Development Strategy
NIDS	National Income Dynamics Study
PSU	Primary sampling unit
SALDRU	South African Labour and Development Research Unit
STATSA	Statistics South Africa
UCT	University of Cape Town
UNAIDS	Joint United Nations Programme on HIV/AIDS
WHO	World Health Organization

Dedication

To my wonderful parents, sisters and brother who have been a source of courage and inspiration.

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CHAPTER ONE: INTRODUCTION

1.1 Introduction

The past two decades in South Africa have witnessed massive efforts by the public sector towards development and poverty alleviation in traditional authority areas (Greenberg, 2001). A sizeable share of public spending is now devoted to improved public services (May, 1998, Anseeuw, 2004; Perret, 2004). Yet, in spite of visible achievements and successes one can still observe that, overall, few changes have actually occurred in the lives of traditional authority dwellers during the past twenty years, owing to both the legacy of apartheid (May, 1998), and the lack of efficiency of certain programmes and policies (Greenberg, 2001; Anseeuw, 2004; Perret, 2004).

Traditional authority areas are areas that are governed by kings and chiefs. In South Africa this form of authority was established by the Nationalist Government to enforce segregation and control the movement of the black population from the homelands to the cities (Giddens, 1997). Traditional authority served as judiciaries with their own police stations and courts; they controlled the ownership of land and traditional authority dwellers were also expected to pay taxes to the king or chief in power (Khunou, 2012; Giddens, 1997).

The engineering and construction of traditional authority areas was introduced by the apartheid government through the promotion of the Black Self-Government Act. Traditional authority areas; also known as Bantustans were engineered on the basis of the culture and language of a particular ethnic group (Chidester, 1992). According to Chidester (1992) the implementation of the Black Self-Government Act prevented different ethnic groups from mixing with one another or living side by side; most particularly since it demanded that people who speak the same language and follow the same cultural customs must be ruled under the same traditional leadership and must live in the same environment (Khunou, 2012).

The Nationalist Government's motivation for this separatist engineering was disguised as a system of preserving ethnic cultural and traditional customs, while the real motive was largely imbedded in ethnic segregation so as to create conflict between the different ethnic groups and maintain power by reducing threats to the apartheid government. Since the apartheid government instituted self-governing traditional institutions and forced removals of the black population from urban areas into rural areas through the Group Areas Act of 1950 (re-enacted in 1957 and 1966) and the Black Self-Government Act; black people were relocated into areas that did not have employment opportunities or any services pivotal for the survival and sustenance of a community (Chidester, 1992; Khunou, 2012).

In order to find employment black people had to migrate from the newly established homelands to the cities where they could secure employment in mines and industries (Perret, 2003 & Fraser, Monde, and Van Averbek, 2003). This kind of migration saw a change in the demographic composition of traditional authority areas as males migrated to enter manual labour in the gold and diamond mines and younger women sought employment as domestic labourers in White households (Fraser, Monde, and Van Averbek, 2003).

This phenomenon left homelands largely populated by older people (grand-parents) and younger children who were either too old or too young to secure employment in cities. Another unfortunate phenomenon that migration has brought with it; is the destruction of families where both parents are absent and younger children are left in the care of grandparents. This has contributed to a failure in family disciplinary power and high rates of school dropouts and teenage pregnancies as adolescents engage in risky sexual behaviours.

Traditional authority areas are amongst the most impoverished environments in South Africa, (Khunou, 2012). According to May (1998, p29) poverty is defined as "*the inability to attain a minimal standard of living, measured in terms of basic consumption needs or the income required to satisfying them.*" Poverty in traditional authority areas and chronic deprivation is more generally viewed as the legacy of the endowment that was forged and organised by the apartheid system making it appear as a political construct whereby traditional authority dwellers poverty served the interest of the dominant minority social group by assuring low-cost farm-labourers and workers for off-farm activities (Ntsebeza, 2002; Khunou, 2007; Mamdani, 1996; Ntsebeza, 1999 & 2002).

While South Africa has seen more than 20 years into democracy; the inability to access traditional authority areas due to the unviability of infrastructure stems far back into the apartheid era where people were forcibly removed to dusty and airy areas that were and still are hard to reach (Khunou, 2007). Thus, while the democratic government does provide gains to redress the imbalances of the past; benefits are largely subsumed by those residing in urban areas and closer to towns and cities. The majority of dwellers in traditional authority areas are unable to afford basic human needs such as food and shelter; many of them suffer malnutrition, illiteracy, low life expectancy, insecurity, powerlessness and low self-esteem (Rahman and Westley, 2001).

The South African government made efforts for the provision of cash transfers such as child support grants as a means of rescuing mothers from extreme poverty and improving the nutritional needs of children whose parents are unemployed (Makoma, 2008). Some scholars have argued that the child support grant has led to an increase in teenage pregnancies where young girls fall pregnant to gain sustained income. However; contrary evidence from other scholars has been provided which shows that there is no positive correlation between the child support grant and fertility (Makoma, 2008). To validate this argument scholars have cited the decline in total fertility rates which proves that South African fertility rates are not increasing with the increase in the amount of the child support grant but instead they are declining (Makoma, 2008).

According to the Policy Coordination and Advisory Services, (2008) there was a widening gap between the economic income of the wealthy and the poor citizens in South Africa. This gap continues to widen with time as the rich in urban areas continue to become richer and the poor in traditional authority areas continue to become poorer. The development of health facilities, proper housing and schools has only now been a reality through the implementation of the National Rural Development Strategy (NRDS), Integrated Sustainable Rural Development Strategy and many other policies that have been introduced by the democratic government to bridge the gap between the rich and the poor (Perret, Anseeuw and Mathebula, 2005).

While the government has made efforts to bridge the gap between the poor in traditional authority areas and the rich in urban areas; women in traditional authority areas still face tremendous obstacles with accessing contraceptives for fertility control (Lyager, 2010). The

unavailability of infrastructure such as hospitals and educational facilities such as schools make it impossible for women to access modern fertility control measures or to even acquire information about modern contraceptive methods (Lyager, 2010). Women in urban areas have lower fertility levels compared to the past because they are afforded services such as better schooling facilities, superior infrastructural developments and better employment opportunities (Lyager, 2010). While many women in urban areas are empowered to make autonomous decisions on matters relating to their wellbeing and reproductive health, many of them are also incorporated in the economic industry and this leads to a reduction in the total number of children that they have during their reproductive life span (Lyager, 2010). The reduction in the rate of fertility stems from the fact that urban women spend more time in the work place and devote less time to child bearing.

Of importance to note is that despite the governments' attempt to develop rural areas, most particularly traditional authority areas that were left largely underdeveloped by the apartheid government; these areas continue to experience a high rate of poverty. When analysing the successes of the democratic government a vast number of scholars state that the government has had little successes in redressing the imbalances of the past (Perret et al., 2005). Following the 1994 elections, while the democratic government was supposed to institute programmes and policies aimed at improving development in traditional authority areas, the post 1994 development paradigm was premised on the assumption that urban development would inevitably cascade to the rural periphery through a trickle down process (Ntsebeza, 2002).

Some argue that little has been gained from the trickle down approach and for years traditional authority areas in South Africa have seen very little development (Ntsebeza, 2002). The idea behind this approach was imbedded in the notion that gains by the wealthy in urban areas would transcend to the poor in underdeveloped traditional authority areas, but the unfortunate result of this approach was that the wealthy got more wealthier while the poor fell more into ultra-poverty (Ntsebeza, 2002). This unfortunate phenomenon in traditional authority areas has ultimately subjected social systems and economic and infrastructural developments in urban cities to enormous strain as many traditional authority dwellers have migrated from their homelands in search for a better future (Ntsebeza, 2002).

While the African National Congress seemed to possess a socialist paradigm at the time when they took over government office in 1994; their stance has quickly turned into a neoliberal paradigm. According to Narsiah (2002) multinational institutions such as the World Bank may be partly to blame for the African National Congress's sudden shift from a socialist agenda driven by redress to a neoliberal position. Within this regard multinational organizations are believed to have exercised immense hegemony over South Africa and converted the ANC organization to a neoliberal paradigm (Narsiah, 2002).

While neoliberal policies have opened a gateway to a globalized South Africa, they have also brought about a bulk of difficulties for a vast number of South Africans (Desai, 2002), most particularly traditional authority dwellers who are least educated and largely unemployed. The privatisations of services that have previously been under the control of government have excluded a vast number of South Africans from public gains. While the economic income of the skilled and unionised has increased, current literature seems to suggest that the unskilled and the non-unionised have been falling further into poverty and economic exclusion (Desai, 2002). This has led to an increasing gulf between the better skilled in urban areas and the marginalized unskilled in traditional authority areas.

Traditional authority areas in South Africa have largely been overlooked. The majority of discourses that look at South African communities seem to focus more on cities and urban areas while very minimal attention is directed toward traditional authority areas. In addition, little has been known about fertility levels in traditional authority areas. During the apartheid era; census data only adequately covered the White minority race group. According to Camlin, Garenne and Moultrie (2004) the quality of census data collected on the African population was generally poor and the apartheid government's concerns about security and secrecy meant that little of the demographic research conducted between the years 1960 and 1990 by the government was published.

It was only after the first democratic elections that Statistics South Africa instituted a census survey in the year 1996 that was inclusive of the whole of South Africa (Camlin et al., 2004). However, while South Africa has had insight into women's fertility levels through literature on population and demographic issues; such research data is generally documented at a country level and it overlooks the fertility levels of women residing within rural areas; and most particularly traditional authority areas. Thus, there is little known about fertility levels of childbearing women in traditional authority areas.

1.2 Rational for the study

This study discusses the socio-economic and demographic influences on childbearing among females aged 15-49 in traditional authority areas in South Africa, using the National Income Dynamics Study (NIDS) Wave 3 data. According to Schultz (2007) fertility is often understood to be a choice by the parent; which is determined by the availability of resources that would be adequate in raising the desired number of children. Malthus (1798 as cited in Schultz, 2007) viewed fertility not as an option that relied on one's personal choice but as an outcome of social institutions, most particularly the monetary value that societies placed on couples as prerequisite for entry into marriage.

This view by Malthus is synonymous with the trends in fertility that have been observed in Europe and many other developed nations where people stay longer in school and there is an increase in age at entry into marriage. Women as a result begin childbearing at a much older age, leading to fewer children than they would have had if they married at a much younger age. However, while the above statement define the circumstances of many females in developed countries; it excludes the childbearing decisions of many women in developing and underdeveloped nations, most particularly since their fertility is often the outcome of many external forces. In addition, high population growth rates have been acknowledged by nations as resulting from high fertility levels and are one of the impediments to rapid social and economic development, while declining population growth rate as resulting from low fertility due to modernization and developments (Weeks, 2012).

According to Swartz (2004) South Africa has a significantly lower fertility rate when compared to other countries in Africa; most particularly those in the Sub-Saharan region. Within the discourse of fertility there seems to be an agreement amongst many scholars that the level of fertility in South Africa began to decline amongst all race groups prior to the end of apartheid, (Swartz, 2004). For South Africa as a whole fertility was estimated to be high and stable between the years 1950 and 1970 with an estimated average of 6-7 children per woman. The fertility rate of South Africa later dropped to an average of 4-5 children per

women in the period of 1980 to 1995 and is now estimated to be sitting at 2.5 children per woman (Statistics South Africa, 2007; Swartz, 2004).

Considering that the decline in fertility is observed further back into the era of the apartheid government; it appears that in addition to the level of development that South Africa had achieved it was also the policies of the white government that led to a decline in fertility amongst the black population. The above statement is clearly supported by the governments' support of family planning services which intensified in the early 1960s (Swartz, 2004). According to Swartz (2004) the government's support of family planning services was fuelled by the fear that increased population growth will undermine the South African economic prosperity and also by concern of the political leaders that the increase in the black population would overwhelm the smaller number of Whites.

Following the apartheid era; social policies were implemented in South Africa as a means to redress the imbalances brought forward by the legacy of racial segregation which benefited the minority race group and excluded other race groups from public gains (Gertler and Boyce, 2001). While the benefits gained from government policy implementations have largely been the central topics of many scholars and research papers; there is disagreement about the actual impact of government interventions on women's fertility in South African traditional authority areas.

Previous research on fertility in South Africa has primarily focused on fertility transition, fertility levels and trends and policy implications (Mostert and Hofmeyr, 1988) and since the end of the apartheid era, most researchers have been interested in unravelling the age and parity structure of the country's fertility transition. While other studies have attempted to fill gaps that existed in South Africa's demographic history by focusing on contemporary features of South African fertility, little is known about the relationship between fertility and socio-economic and demographic characteristics of women in traditional authority areas.

A vast body of knowledge seems to suggest that governments' interventions have focused largely on urban areas while little attention has focused on traditional authority areas (Puttergill, Bomela, Grobbelaar and Moguerane, 2011). In addition, the unavailability of educational opportunities for tertiary level studies and the lack of job opportunities in traditional authority areas have left a vast number of childbearing aged women in destitution,

with very minimal information on how to better care for their reproductive health and take charge of decisions relating to their fertility (Puttergill et al., 2011).

Apart from the plight of women in traditional authority areas, the government's attempt to redress the imbalances of the past through social grants such as the child support grant has been observed to have created dependent communities and led to the shift of rural communities from agrarian farming to dependence on remittances from migrated family members and economic income from the state (Gertler and Boyce, 2001; Devereux, 2001). While the arguments presented in the literature review are informative; they provide little understanding of the actual impacts of socio-economic status on fertility in rural areas, particularly traditional authority areas which are still largely underdeveloped.

While there is a vast body of research that explores and investigates the impact of socio-economic influences on childbearing in the developed nations and some parts of South Africa (urban areas); there is a tremendous lack of empirical research that provides the socio-economic and demographic influences on childbearing in traditional authority areas. In addition, while the African National Congress (ANC) has made efforts in redressing the imbalances of the past; with particular focus directed to traditional authority areas that were left underdeveloped by the apartheid government; little is known of the impact of government's attempt to bridge the gap between urban areas and traditional authority areas (Puttergill, et al., 2011).

1.3 Aim of the study

The overall aim of this study is to provide insights into levels and determinants of childbearing in traditional authority areas. Unlike the current literature that has studied the discourse of the socio-economic and demographic determinants of fertility through the exploration of qualitative methods; this study aims to investigate the socio-economic and demographic determinants of fertility in traditional authority areas using a quantitative method.

The specific objectives are:

- To provide an overview of the factors that influence fertility amongst women living in traditional authority areas.
- To ascertain the socio-economic determinants of fertility in traditional authority areas.
- To compare traditional authority areas with other non-traditional authority areas.

This dissertation discusses the socio-economic and demographic determinants of fertility in traditional authority areas in South Africa using the National Income Dynamics Study (NIDS) Wave 3 data.

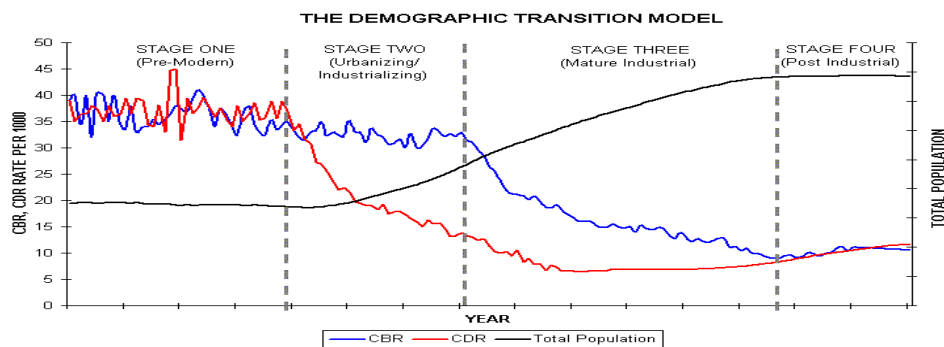
1.4 Theoretical framework

Demographic Transition Theory

The demographic transition model was proposed by Thompson in 1929, and it is characterized by four stages. In stage one; both birth and death rates are high and population grows slowly (Kirk, 1996, Mulder, 1889). In stage two; birthrates remain high, but death rates fall sharply as a result of improved nutrition, medicine, health care, and sanitation (Kirk, 1996, Mulder 1998). In stage three; birthrates begin to drop rapidly, death rates continue to drop, but more slowly. Economic and social gains, combined with lower infant mortality, reduce the desire for large families (Kirk, 1996). Lastly, stage four is characterized by both birth and death rates which are in balance, but at a much lower rate; and population growth is minimal if at all (Kirk, 1996).

The theory of demographic transition assumes that a country will move from a pre-industrial (agricultural) economic base to an urban, industrial one, with a corresponding decrease in family size and population growth (Kirk, 1996; Mulder, 1998). The slowing of population growth theoretically results from better standards of living, improvements in health care, education (especially for women), sanitation, and other public services (Kirk, 1996). Although this four-stage pattern has been repeated in other places besides Europe, there are local variations, sometimes significant, as the trajectory of development is everywhere different and by no means inexorable (Kirk, 1996).

Figure 1.1. The demographic transition model



Source: Montgomery. (2000).

The demographic transition theory is appropriate for this study because the aim of the study is to understand the extent and determinants of childbearing in traditional authority areas, while also making a comparison with rural and urban areas. Through uncovering the socio-economic and demographic differences within the four demographic areas one would be able to better understand the current stage of development in traditional authority areas as defined by the different stages of the demographic transition model. In addition; overtime as societies move from pre-modern to industrialized societies the demographic transition theory will enable one to understand if the experienced fertility rate in traditional authority areas is declining as women become incorporated in economic production or if it has remained constant.

Moreover, rural areas in South Africa have long been characterised by a scarcity of employment opportunities, and lack of infrastructural resources such as hospitals, and schools. Taking this into account; the demographic transition theory will allow for comparison between urban areas which have long been the recipients' of development and rural areas where some communities are still dependent on agricultural production and remittances from migrated family members. Therefore, this model will allow a close analysis of fertility levels and determinants of childbearing between areas that are still existing within the different stages of fertility.

1.6 Outline of the study

This study is divided into five chapters. Chapter one discusses the introduction of the study as well as the aim and objectives of conducting the study within the South African context. Chapter 2 discusses alternative definitions and provides a succinct overview of past studies on the fertility levels of childbearing women. This is followed by chapter 3, which provides the methodology employed in this study. Chapter 4 presents the analysis of the data through descriptive statistics and correlation tests.

Chapter 5 will provide a comparison of how the results obtained in this study compare with what other researchers have done in the discourse of fertility. As well as a short conclusion; this will ascertain if the study was able to address the research problem and if it meets the aim and objectives of the study. This section will also present the limitations encountered in conducting the study and also make recommendations for the improvement of the socio-economic and demographic experiences of childbearing women in traditional authority areas which is expected to ultimately lead to a better understanding of the factors impacting on fertility.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

From 1900 to the 21st century; the world had increased to reach approximately seven billion by the year 2011 (Weeks, 2012). The increase in population can largely be attributed to the increase in fertility, most particularly beginning with the agricultural communities (Weeks, 2012). Currently, this increase largely stems from areas in the underdeveloped regions of the world, where women are disempowered from partaking in economic production (Weeks, 2012). High population growth rate has been acknowledged by nations as resulting from high fertility levels and one of the impediments to rapid social and economic development (Weeks, 2012). While declining population growth rate has been viewed as resulting from low fertility due to modernization and development (Weeks, 2012).

Similarly, less developed countries have long been attempting to reduce the rate at which their populations are growing, while developed countries are concerned with falling fertility rates (Weeks, 2012). In the year 2011; South Africa was estimated to have a total fertility rate of 2.5 (Statistics South Africa, 2007). The current fertility rate has been the result of a decline in South African fertility levels which have been observed since the beginning of the 1960s (Statistics South Africa, 2007).

2.2 Socio-demographic factors

2.2.1 Age and parity

According to Garrenne, Tollman & Kahn (2000) the age pattern of fertility in a rural area of South Africa known as Agincourt sub-district which was under demographic surveillance over the period of 1992-97 revealed a total fertility rate of 3.3 births per woman of reproductive age over the period. The observed number of children per women depicted a drastic decline from 6.0 births per women which had been previously observed between the period of 1970-74 (Garrenne et al., 2000).

Based on the study conducted by Garrenne et al., (2000) age-specific fertility rates showed an atypical bimodal pattern when they were dichotomised into two components of similar magnitude. Namely premarital fertility among women between ages 12-26 and marital fertility among women between ages 15-49 (Garrenne et al., 2000). The dichotomisation between the two variables revealed two underlying modes: a mode of premarital fertility amongst women between ages 18-20 and a mode of marital fertility amongst women between ages 28-30 (Garrenne et al., 2000). Results of the study further revealed that premarital fertility accounted for 21 percent of all births and for 47 percent of births among women between ages 12-26 (Garrenne et al., 2000).

The average age of menarche is estimated to be between ages 12 to 13 worldwide; with variations in each country (Apter, 1980). As depicted by the 12.5 years observed in the United States (Anderson, Dallal and Must, 2003), 12.72 in Canada (Al-Sahab, Ardern, Hamadeh and Tamim, 2010) and 12.9 in the United Kingdom (Hamilton-Fairley, 2004). In postmenarchal girls, about 80% of the cycles are anovulatory in the first year after menarche, 50% in the third year and 10% in the sixth year (Apter, 1980). A woman's fertility peaks in her early and mid-20s, after which it starts to decline, with this decline being accelerated after age 35 (Apter, 1980). However, of importance to note is that the exact estimates of the chances of a woman to conceive after a certain age are not clear (Apter, 1980). According to a number of scholars in the discourse of fertility; the chances of a couple to successfully conceive at an advanced age does not only depend on the age of the women but also on many factors, such as the general health of a woman and the fertility of the male partner (Apter, 1980).

According to a study done on a sample of 782 healthy European couples aged 19-39, fertility starts declining after age 27 and drops at a somewhat greater rate after age 35 (Hall & Carl, 2002). The women were divided into four age groups: 19–26, 27–29, 30–34 and 35–39 (Hall & Carl, 2002). Statistical analysis showed that the women in the 27–29 age group had a significantly lower chance on average of becoming pregnant than did the 19– to 26 year olds (Hall & Carl, 2002). Pregnancy rates did not change notably between the 27–29 age group and the 30–34 age group, but dropped sharply for women over 35 (Hall & Carl, 2002).

When the age of the male partner was taken into consideration the study found that the age of the male had a significant impact on female fertility among women who had reached their mid-30s, but not among younger women (Hall & Carl, 2002). However, some experts have

discredited the findings by stating that the study was too small and there were too many variables which were too difficult to sort out for a clear conclusion to be drawn. Some experts have suggested that the main change in fertility in older women was due to the fact that it took them longer to conceive, not necessary that they were significantly more unlikely to eventually succeed (Hall, 2002).

The introduction of scientific evidence stating that younger women have a much higher chance of conceiving than ages 35 and above has been accompanied by a phenomenon of increased teenage pregnancy which has largely been observed in the United States and many developing countries. While the fertility of older women decreases with the increase of the women's age teenage pregnancy seems to be very high, and this increase in fertility amongst teenagers has far reaching consequences (Swartz, 2004). According to Swartz (2004) teenage pregnancies are most prevalent amongst the Black and the Coloured population, and most particularly those with very little or no education. The high rate of teenage pregnancy has detrimental consequences, especially for traditional authority dwellers that are the poorest and most disadvantaged in the country.

According to Kaufman, de Vet and Stardler, (2001) while teenage pregnancy is a phenomenon that is not embraced socially; society in both rural and urban areas has evolved in a manner that accepts it. When a child is born it is welcomed at home and in most cases it is raised under the guidance of grandparents and the extended family. The phenomenon of teenage pregnancy is not only a problem of the developing world but it exists worldwide and it has affected millions of lives. According to the World Health Organization, (2012) 16 million births amongst women aged between 15-19 years were recorded in the year 2008, which means that 11% of all births worldwide were contributed by adolescents. According to the World Health Organization, (2012) approximately 95% of the 16 million births occurred in low and middle income countries, while only 5% was reported to have been contributed by the first world countries.

2.2.2 Education

2.2.2.1 Status of education

According to a study conducted by the Nelson Mandela Foundation (2005, cited in Gardiner, 2008) which focused on the poorest areas in former Bantustans of KwaZulu-Natal, Limpopo and Eastern Cape; results showed that parents in rural areas are eager to ensure that their children are afforded the right to quality education. In addition; the study also found that there is a friction between community members and the schools; where school going children are expected to carry out certain tasks in the early morning before going to school and in the late afternoon after coming from school (Gardiner, 2008). Researchers in the study found that such duties clash with the routines and timetables of the schools (Gardiner, 2008). In addition, due to the high rate of unemployment and poverty; some children often go to school hungry and unable to concentrate on the activities that take place in school (Gardiner, 2008).

The study also found that the friction between community members and the school goes far beyond the effects that are endured by school going children, but teachers and parents often find it difficult to cooperate with one another which reflect that neither the communities nor the schools have accepted each other in ways that are supportive (Gardiner, 2008). While the friction between communities and schools has been recognised as one of the impediments in offering quality education; researchers have also established that due to the lack of infrastructure *'villages and rural communities are difficult to reach, the physical conditions in schools are inadequate and learner performance in comparison to urban schools is weak'* (Gardiner, 2008).

While there has been significant changes in both policy implementation and infrastructure since 1994; rural schools in KwaZulu-Natal, Limpopo and Eastern Cape have more than 45 learners in each classroom and this makes it difficult for the teachers to provide quality education; since the teacher is unable to be available for every learner that is facing difficulty with understanding (Gardiner, 2008). According to Gardiner, (2008) researchers from the University of Fort Hare and the Witwatersrand have established results which show how little schools in rural areas draw on the numerous forms of support that are found in communities.

While rural communities have matriculated youths, unemployed graduates, retired professionals and experts in traditional customs; schools often fail to incorporate the skills

and knowledge of such people to strengthen the wealth of instruction (Gardiner, 2008). Thus, while rural communities often have material resources that can be utilized to strengthen the knowledge and skills that are imparted in the class room; the friction between schools and communities often make it difficult for school going children to gain from this advantage (Gardiner, 2008).

2.2.2.2 Level of education

According to Kirby, (2002) there is a variety of literature that seem to suggest that people's involvement in schools reduces sexual risk behaviour. It appears that women of childbearing age that stay longer in school have a reduced risk of unwanted pregnancy because education creates an informed participant citizenry (Chang'ach, 2012); making women more aware of their rights to contraceptives, increasing knowledge about condom usage and empowering citizens with the ability to make critical choices. One of the most important factors that has been attributed to the decline in family size in both rural and urban settings of Thailand has been the increase in the number of women accessing secondary education between the years 1970 and 1990 (Lyager, 2010). Education in this case is viewed as an important factor since it empowers women to make important and beneficial decisions with regards to their health and fertility.

According to a number of studies; with the increase in young people with secondary schooling; the number of teenage pregnancies has decreased drastically when compared to the past (Kirby, 2002). The association between education and fewer pregnancies was derived from studies conducted on women with secondary schooling while women and especially teenagers that had dropped out of school were observed to be at a greater risk of pregnancy (Kirby, 2002). According to Kirby (2002) completion of secondary schooling is associated with less risky sexual behaviour. More importantly the learners' investment, involvement, attachment and school achievement have been observed to be related to the age of sexual debut, frequency of sex, pregnancy and child bearing. Thus, it appears that women of childbearing age who have a higher self-efficacy in achieving good academic result would be more likely to perform better and stay longer in school than women of childbearing age that have a lower self-efficacy.

According to Kravdal there are many reasons why a women's fertility is related to the length of her education. Childbearing desires have been understood to be weaker amongst educated women most particularly since (i) they face higher opportunity cost of childbearing, (ii) encourage children's education which makes them less available for domestic chores, (iii) are less dependent on children as old age security and (iv) experience lower infant and child mortality rates. Education is most likely to operate through these channels because school enables women to be literate and offers skills that enhance their productivity.

While women's physical autonomy, economic autonomy and decision making autonomy are likely to depend on community norms; there are individual variations that depend on individual factors such as education (Niraula and Morgan, 1996). In addition, if a women is well educated she is most likely to be permitted by her husband and grooms family to participate in economic production, these opportunities in turn add to the women's literacy level and may reduce the desire for a larger number of children through factors such as opportunity cost, child mortality and old age security concerns (Niraula and Morgan, 1996).

2.2.2.3 Teenage pregnancy

While education helps in reducing unwanted pregnancies; unwanted pregnancies on the other hand affects the individual's ability to complete secondary schooling. According to a study conducted in Kenya by Chang'ach (2012) '*teenage pregnancy often gets school aged girls at a wrong time in their lives while they are still in the process of secondary schooling.*' This often leads to detrimental effects on their schooling and ultimately their lives; because a vast number of them end up having to drop out of school in order to raise the new born child. The above observation made in Kenya is similar to the case that has also been encountered in South Africa.

According to the second wave of the National income dynamics study; South African school aged girls seem to experience a high rate of grade repetition as well as an alarming increase in dropouts than the previous years (NIDS wave 2 overview, 2012). Such dropouts were generally found to be preceded by unplanned pregnancies (NIDS wave 2 overview, 2012). While some teenagers dropout of school without the intention of ever returning, in developed and in some developing countries they generally return back to school in cases where the

teenager has had to dropout to raise the new born child. However, life for all teenage mothers never becomes the same following childbirth because they have to adjust their life-styles into one of parenthood (Santelli and Melnikas, 2010).

Teenage pregnancy has always been a phenomenon of concern in South Africa. According to Makiwane (2010) in South Africa; the level of teenage pregnancy was estimated to be 103 per 1000 teenagers and later increased to 106 per 1000 teenagers in the year 1990. By the year 2007 teenage fertility rates were estimated to be lower than 56 per 1000 in the years 2000-2005. According to Makiwane (2013) the observed decline in teenage fertility rates took place in the context of a declining national fertility rate. Currently, South Africa is estimated to have fewer than two births nationally and it is believed by many scholars to have the lowest in the whole of Africa.

While the national fertility rates have been declining; it has become apparent that teenage pregnancy is still high when compared to the past and the age at first birth is occurring at a much younger age (Kaufman, de Wet, and Stadler, 2001). According to Grant and Hallman (2008) national data shows that one in every five teenagers aged 15-19 has given birth, and more than 20% has given birth by the age of 20. While teenage fertility has reflected a 10% decline in South Africa between 1996 and 2001; the mean age at first birth has remained constant and two-thirds of teenage pregnancies are unplanned and unwanted (Moultrie and McGrath, 2007). According to Grant and Hallman (2008) the gross enrolment rate for secondary school was 86% for males and 93% for females in 2002. While literature focussing on adolescent pregnancy in the developing world is large very few studies focus on the prevalence of school girl pregnancy and the negative impacts it has on prior school experiences and subsequent educational attainment.

While most schooling disruptions in South Africa have been attribute to financial constraint; literature seems to suggest that more than one-fourth amongst 20-22 year old females attributed their schooling disruption to pregnancy (Hallman and Grant, 2002 and 2004). According to Grant and Hallman (2008) 30% of non-enrolled and non-matriculated 15-18 year old females reported pregnancy as a primary reason for not continuing their education. In these same data; more than a third of 19 year olds who had dropped out of school due to pregnancy were found to have returned to school (Grant and Hallman, 2008).

Since it had become apparent in a number of literature that having a child at a young age marks an end of schooling for young girls; the South African government implemented a policy which allowed young girls to return back to school following childbirth (Grant and Hallman, 2008). However, the benefits to young girls as enshrined in this policy have been infringed by many school principals in the belief that if adolescents are ostracised from returning back to school they will abstain from risky sexual behaviour (Grant and Hallman, 2008). Given that adolescent pregnancy is still viewed to be extremely high in South Africa; recent revision to the policy which allows young girls to return back to school after pregnancy threaten to greatly curb the ability of young girls to return back to school after pregnancy (Grant and Hallman, 2008).

Current literature in the field of fertility also reveal that women who have their first birth in the early years of their teenage phase have been found to have few additional children in later life (Kaufman et al., 2001). This is largely due to the fact that unlike the past South African adolescents take opportunities that do not lock them into gender roles and even if an adolescent gives birth; she is not destined for marriage and subsequent childbearing (Kaufman et al., 2001). While many young women may take a break from school to raise a child; they often return back to school to complete their secondary schooling. However, it is pivotal to note that experiences of teenagers growing up in traditional authority areas are not uniform to those experienced by teenagers in urban areas. Gender roles are still an integral part of traditional authority dwellers and many of them still perceive the women's role as belonging in the household as a child bearer (Makiwane, 2013). Thus, there is a vast number of young people that are not being afforded access to schooling and their survival is mainly based on income brought home by the male counterparts.

2.2.3 Religion

According to StatSA (2011) 80 percent of all South Africans are Christians, and most are Protestants. More than 8 million South Africans are members of African Independent churches, which have at least 4000 congregations (Pocket Guide to South Africa, 2011). The denomination generally holds a combination of traditional African and Protestant beliefs (Pocket Guide to South Africa 2011). The other large Protestant denomination, the Dutch Reformed Church, is estimated to have about 4 million members in several branches, and the

demographics of the Dutch Reformed Church are largely populated by whites and people of mixed race (Pocket Guide to South Africa, 2011).

According to the 2012 poll (as cited in Pocket Guide to South Africa, 2011) the number of South Africans who consider themselves religious decreased from 83 percent of the entire population in 2005 to 64 percent of the population in 2012. Which means that people are moving away from being religious to not being religious; and a vast number of religious teachings; many people have so long lived by are becoming irrelevant in the present times.

According to Lecostaouec (2006) people who actively practice a religion tend to have higher fertility than people who do not subscribe to a specific religion. Based on evidence that has been observed in the United States; scholars argue that there is a positive correlation between religious conviction and high fertility (Lecostaouec, 2006). Lehrer (as cited in Lecostaouec, 2006) maintains that being affiliated with a religious institution has a direct effect on economic and demographic outcomes of people since it *“has an impact on the perceived costs and the perceived benefits of various interrelated decisions that people make over their life cycle,”* such as how many children to give birth to.

According to an observation made by Norris and Inglehart (as cited in Lecostaouec, 2006) where they observed trends in fertility through comparing across “most secular, moderate, and most religious” nations; they concluded that while the fertility rate of childbearing aged women has declined in all nations during the last thirty years, there are still remnants of a sharp contrasts between the most secular and religious societies; where religious societies have significantly higher levels of fertility than secular societies (Norris & Inglehart as cited in Lecostaouec, 2006).

The continent of Africa has the slowest decline in fertility when compared to the rest of the world and the rate of fertility is largely attributed to cultural and religious factors that advocate for high fertility and also rewards those with high fertility (Caldwell and Caldwell, 1987). Similar to an analysis by Caldwell and Caldwell (1987) Lehrer (2004) also observed that religious affiliation has an impact on economic and demographic behaviour of individuals and families, most particularly since some religions provide psychological and social rewards to couples and families that give birth to many children in the form of approval, social status and blessings.

Bearing in mind the above; the high rate of fertility that has long been displayed by Mormons in the United States is rational in response to religious pressures (Stark and Finke, 2000). According to the operant conditioning theory which was postulated by Skinner (1948 as cited in Touretzky and Saksida, 1997) Social rewards have been found to be a better reinforcement of behaviour, because if behaviour is followed by a positive reward it is most likely that the behaviour will be repeated, while those behaviours that are not rewarded are most likely to be minimised due to less perceived benefits.

Thus, when one takes the above into account; high fertility amongst individuals with a religious conviction becomes rational in response to the psychological and social rewards that they receive in return. In addition to the perceived rewards, Catholicism as a religion has been found to embody strong pronatalist ideologies that increase the individuals perceived benefits of giving birth to an additional child through discrediting the utilization of contraceptives, while opposing abortion and advocating for the increased cost of family planning (Lehrer, 2004).

Contrary to the available literature that talks of religious affiliation as a contributing factor in high rates of fertility; other scholars have found that some women of childbearing age in some religions generally have lower fertility when compared to women that are affiliated to Catholic and Mormons groupings (Lehrer, 2004). Non-Orthodox Jews have been observed to display very low rates of fertility when compared to other religious groupings, and in understanding the reasons for their reduced fertility Lehrer (2004) notes that the answers lie within the Jewish community and in its interactions with the broader society.

According to Becker (1981) and Chiswick (1988) historically; Jews have had to pay an extra price for adding an extra child into the family; therefore, many have chosen to substitute expenditure per child for quantity. In addition, women in the Jewish community have been observed to have higher rates of literacy when compared to other communities, and the persistently low rates of fertility are closely related to the women's level of education and participation in the labour market (Becker, 1981 and Chiswick, 1988).

2.2.4 Employment status

2.2.4.1 Unemployment

While some childbearing aged women have been fortunate enough to obtain nonstandard employment in a variety of South African sectors; the bulk of childbearing aged women have become discouraged workers due to the lack of marketable skills and the scarcity of employment opportunities. Thus, many of these women have become surrendered to the phenomenon of unemployment (Desai, 2003). Unemployment is a baffling reality for a vast majority of South Africans and hard hits traditional authority areas as they are remote from cities which consume the majority of employment industries (Desai, 2003). The current unavailability of employment in traditional authority areas has surrendered many women to unemployment, a condition Danning (2010) identifies to be a “*wageless life*”; which is the life of working age adults who are excluded from political economy and have no option but to learn to live without even the minimalist hope for wages.

According to Danning (2010) bare and wasted life becomes the life of the “*wageless*”; these are the women who are condemned to residence in slums and whose children roams the street and become prey and predator to violence. Unemployed women in traditional authority areas are excluded from political economy, followed by bare existence where basic needs that are pivotal for human survival are unattainable due to their scarcity and durability (Li, 2009). Stripped off from basic necessities such as proper nutrition, an adequate housing and employment opportunities the lives of traditional authority dwellers has become similar to a state of pauperism (Li, 2009). Such a state of pauperism dates far back to the apartheid era where traditional authority areas provided a labour reserve army and the wageless or rather the paupers became the dead weight of the industrial reserve army (Marx 1986, as cited in Li, 2009).

In the words of Li (2009) their existence becomes part of the ‘*surplus population*’. Inadequate jobs in the capitalism industry have led to a failure in the absorption of the unemployed women into the employment sector and thus; a formation of a labour surplus has been created. The labour surplus comprises of individuals that have either been previously employed but later injured due to the cruel injustices of the capitalist industry and individuals that are too old to find employment (Li, 2009). Both the former and the latter face exclusion

in the political economy since capitalism cannot draw any-more capital from them (Li, 2009). Thus, the reality of surplus labour results from an abandonment of people by the political economic system and their labour becomes surplus in relation to its utility for the creation of capital (Li, 2009).

2.2.4.2 Women's employment

The rural sector is predominantly marked by high rates of illiteracy and unemployment. The employment sector that provides employment for the fortunate few rural dwellers is the agricultural sector (Daniels, Partridge, Kekana and Musundwa 2013). The agricultural sector also provides employment in traditional authority areas, though the rate of employment is generally very low (Daniels et al, 2013). While one would expect that the agricultural sector would subsume the largest number of employed individuals it appears that employment in traditional authority areas is largely dominated by wholesale and retail trade and community and social services.

In formal rural areas, farming is the main employer; followed by wholesale and retail trade and private household employment (Daniels et al., 2013). According to Hindini (2000) women's employment does not only reflect increased education levels but it may have a direct effect in lowering fertility. Women's employment is thought to increase women's autonomy by offering them the necessary economic means to better care for their offspring and access medical technology for fertility control. Women's participation in the economic industry limits the amount of time that women devote to childbearing and ultimately lead to fewer children than they would have had; had they not participated in the labour industry (Weeks, 2012).

The above understanding by Hindini (2000) and Weeks (2012) is also supported by Lyager (2010) who observed that the decline in infant mortality and fertility in Thailand in the late 1960s was accompanied by a transformation in family life and an increase in the status of women. During this period of the late 1960s; a vast number of Thai women became incorporated in the modern employment sector (Lyager, 2010) and there was a shift from the concentration of women in the agricultural sector where they could work and take care of

their children to a phase where they travelled long distances and became part of the economic producers in modern industries (Lyager, 2010).

Unlike in the early 1960's where women had more children than they had initially desired; the transition phase was marked with fewer children than they desired because the cost of raising a child in an urban setting where one also had to give hours to employment was costly (Lyager, 2010). While correlating evidence of women's employment and fertility decline is observed in developed nations, underdeveloped and developing nations still lag behind in terms of lowering fertility through the incorporation of women in the employment sector (Weeks, 2013).

2.2.4.3 Nonstandard forms

While unemployment is a reality experienced by many women in underdeveloped nations, nonstandard forms of employment have become more prevalent and proven more unreliable in sustaining economic income to a vast number of households. In support of the above statement is an observation that has been made by Desai (2003) who notes that over the past two decades; since 1994; South Africa has seen an increase in nonstandard forms of employment, more generally known as temporary, casual, contract and part-time employment. Such forms of employment have little effect in lowering fertility since women of childbearing age spend more time outside of employment and have little means of sustaining economic income other than depending on remittances from migrated family members and the child support grant from the state.

In addition to unemployment and nonstandard forms of employment; a phenomenon of the multiplication of the proletariat for those who are fortunate to be workers of nonstandard employment has risen (Danning, 2010). According to Danning (2010) a critical account of earning a living for those excluded in political economy does not begin with the accumulation of capital but the accumulation of labour; a system of earning a living which according to Marx (1976, as cited in Danning, 2010) words is the "*multiplication of the proletariat*". Thus, a proportion of childbearing aged women that have migrated from traditional authorities to become labourers in mines and industrial organizations end up extending their

stay in cities while they surrender their energies to overtime employment so as to obtain a wage that would sustain their families left behind in traditional authority areas.

2.2.5 Marital status

2.2.5.1 Premarital fertility

According to Preston-Whyte (1981, as cited in Posel & Rudwick, 2013) historically, non-marriage among South Africans has been a rare phenomenon. However; the rate at which South Africans are marrying has been declining since the beginning of the 1950's (Posel & Rudwick, 2013) and have declined further during the post-apartheid period (Posel, Rudwick, & Casale, 2011). While marriage rates have been decreasing overtime research on marital status has found that the rate at which people are cohabiting has been increasing. Thus, it seems that while the rate of marriage has been declining over time people are still enjoying the benefits of marriage through living together and raising children as a married couple.

According to Posel and Rudwick, (2013) only 5 percent of South Africans between the ages 20-45 years were reported to be cohabiting in the year 2005 and this later increased to 14 percent in 2008, which means that the rate of cohabitation has been increasing with the decline in marriage trends. According to Posel and Rudwick (2012) in 2008 approximately half of all women who had experienced childbirth were neither married nor cohabiting with a partner. This further emphasises that while marriage rates have been declining; more women are now giving birth outside of marriage as opposed to the past where marriage was a prerequisite for childbearing. Therefore it appears that marriage has lost its value as a determinant of fertility (Swartz, 2004).

While marital fertility has been the most preferred fertility in many cultures; premarital fertility proved to be increasing and this is depicted by the increasing number of rural women who are experiencing childbirth outside of marriage. The shift from the understanding of marriage as a requirement for childbearing is further reflected by the insignificant variation between marital and non-marital fertility of African women in South Africa in the year 1996 where the average TFR for African women who were never married or who were cohabiting was respectively 3 and 9, while that of those who were married was respectively 4 and 3 (Swartz, 2004). According to societal norms, and more especially rural areas where marriage

is still held at a more noble level, unmarried girls who become pregnant at a young age are reprimanded for their behaviour and in some countries they are forbidden from attending school and are prevented from partaking in communal activities (Santelli and Melnikas, 2010).

Kaufman et al., (2001) note that in many African countries and most particularly rural areas; while childbirth before marriage is forbidden; the girls' family is usually forgiving because the teenager increases the odds of getting married. Thus, within this regard fertility serves as proof to the man's family that she is able to give birth to children. Bearing in mind the above it seems to be apparent that societal norms in African rural areas and traditional authority areas also play a role in influencing teenage pregnancy (Santelli & Melnikas, 2010). If marriage was not determined by fertility; teenagers would not need to prove their fertility by engaging in risky sexual behaviours and getting pregnant at an early age.

It has been argued by a number of scholars that a higher fertility rate among unmarried and single mothers is a rational response on the part of women, especially Africans and Coloureds, to oppressive and disempowering patriarchal economic, social and cultural systems (Swartz, 2004). Among Africans and to some extent Coloureds, marriage is far from being an early and universal social institution (Swartz, 2004). African women have consistently low marriage prevalence at all ages (Swartz, 2004). High levels of male migration from rural to urban mining areas have affected lower marriage rates among Africans. Nevertheless, childbearing is almost universal amongst African women. As a result, female-headed households are a common feature in disadvantaged rural and urban areas (Kaufman et al., 2001).

2.2.5.2 Arranged childhood marriages

The term teenage pregnancy is typically used to mean pregnancy outside marriage but in reality more adolescents and teenage pregnancies occur in marriage than outside of it (Unicef, 2001). While the movement for education for all has stressed the need to keep more young women in school until the completion of secondary schooling; marriage and the resultant early childbearing has been the leading factor in the alarming number of school dropouts (Unicef, 2001). While marriage is a choice for many women living in the developed nations,

most women and particularly children living in developing and underdeveloped nations are forced into marriage at a very young age.

This phenomenon of early marriage has been observed in a vast number of countries; such as South African rural areas where young girls are abducted and forced into marriage and India where a mass solemnization of marriages between young girls and boys is performed on the day of Akha Teej (Unicef, 2001). This phenomenon has also been observed in Nigeria where young girls under the age of eighteen are given into marriage by their fathers; driven by the need to follow tradition and protect girls from out-of-wedlock pregnancy, and Bangladesh where girls are married soon after puberty, partly to free their parents from an economic burden and partly to protect the girls' sexual purity (Unicef, 2001).

This trend of entering young girls into early marriage has also been observed in Albania where families in rural areas, reduced to abject poverty by the post-communist transition, encourage their daughters to marry early in order to catch potential husbands before they migrate to cities in search of work (Unicef, 2001). Research in the discourse of early marriage has shown that not only does early marriage infringe on the human rights of the female child but it leads to the unfortunate phenomenon of early childbearing, which ultimately prevents them from attending school and turns young girls and boys into parents at a very young age. In South Africa, the practice of abducting young girls and forcing them into marriage, often with the consent of their parents has long been practised (Condit, 2011).

The practice occurs mainly in rural parts of South Africa, particularly the Eastern Cape and KwaZulu-Natal (Condit, 2011). Adolescent girls who are often abducted and forced into marriage are frequently under-aged, including some as young as eight (Condit, 2011). The practice has long been noted in literature, however, very little has been done to raise awareness on this act of human rights violation. In South Africa, the custom of child abduction and forced marriages has expanded into different ethnic groups and the perpetrators of this custom are traditionally required to pay one or more head of cattle to the father or legal guardian of the adolescent girl (Condit, 2011). Unsuspecting girls who had not consented to the practice of forced marriage usually do not object to its purpose, though sometimes the girl genuinely does not wish to be married.

2.2.5.3 Marital fertility

According to Swartz (2004) marriage and contraceptive use are two of the most powerful determinants of fertility. According to Harrison and Montgomery (2001) in rural areas and in many parts of South Africa the marital contract which usually involves a series of bride wealth payment is in part an unwritten agreement that she will in turn give birth to children for the husband and his family. In this sense a rural woman's reproductive capacities are not owned by her as an individual but are jointly owned by the woman and the husbands' family (Harrison & Montgomery, 2001).

On the other hand, if she is unable to give birth to children due to infecundity; the woman faces dire consequences of hardships for breaking the unwritten stipulations of the marital contract and may be abandoned emotionally, socially and financially (Harrison & Montgomery, 2001). Such situations of abandonment have been the experience of many rural women that have been unable to give birth to children because the husbands family and the society within which they live perceives them as an embarrassment to the family, and classifies such women to a lesser social standard; since rural women's status is determined by fertility and the sex of the children that they give birth to (Hindini, 2000).

Most research on the institution of marriage has been conducted by demographers and part of the scope of their analysis has focused on polygyny and monogamy as dichotomous entities, particularly looking at the differing desire for childbearing between monogamous and their polygynous counterparts (Ezeh, 1997). However, critics to this form of research states that findings often produce limited credibility in explaining differing preferences in childbearing desires since their claims ignore the fluidity of marriage. The study of childbearing desires between monogamous and polygamous couples is rather difficult to understand as monogamous relationships can easily become polygamous and polygamous relationships can easily become monogamous through widowhood and divorce (Ezeh, 1997).

According to Ezeh (1997) while demographers attempt to study birth patterns amongst married women it is harder to locate specific births within specific types of marriages as individuals' status of marriage changes overtime. Thus, it becomes impossible to locate a specific birth with a specific type of marriage relationship (Ezeh, 1997). What is of more importance to this phenomenon of polygyny and monogamous relationships is that even the couples that are within such relationships themselves may define their marriage status in

differing ways (Ezeh, 1997). In the olden days; African polygynous men often had their wives living together in one yard; this phenomenon made it difficult to conceal the existence of the other multiple partners from the first wife (Ezeh, 1997). However; with the changing pattern in polygyny a man that is able to keep separate housing for each partner may be able to prevent their multiple partners of the knowledge of the existence of the other (Ezeh, 1997).

In addition, such studies generally ignore that childbearing desires are generally influenced by ones cultural setting. Thus, polygamous couples and monogamous couples that are from one cultural setting will most likely have similar child bearing desires as their knowledge is informed by one tradition and similar cultural values (Ezeh, 1997). According to a study conducted by Ezeh (1997) in Ghana, women that were found to be in the low polygyny regime were more likely to have some formal education as opposed to rural women that were found to be in the mid and high polygyny regimes. The study also found that rural polygynous couples had higher reproductive performance while women in low polygynous regimes had fewer children representing a birth rate of 9% which was understood to be lower than that of high polygynous areas (Ezeh, 1997).

However, of importance to note is that even though low polygyny areas had lower fertility as opposed to high polygyny areas factors such as age, age at first marriage and number of children ever born before the start of the reference period was deemed to be more important than socio-economic factors (Ezeh, 1997). Thus it appeared that the literacy level of the respondents has little effects on the level of reproduction when one takes into account the age at first marriage of both high and low polygynous areas (Ezeh, 1997). In addition to the factors that lead to a reduction in productivity levels the study found that living in an urban area has a significant effect which reduces productivity by 19% (Ezeh, 1997) and since low polygynous regimes were more likely to have lowered productivity it would appear that they were also more likely to reside in urban areas as opposed to middle and high polygamous regimes.

Also observable from the study is that women in low polygynous areas were more likely to desire fewer children and utilize contraception as opposed to rural women living in high polygynous areas that desired more children and showed little use of contraception (Ezeh, 1997). Thus, it appears that individuals in differing polygyny regimes adopt different behavioural patterns with respect to reproduction. However, as informative as this study is; it does not account for why there are differing reproduction levels between low, middle and

high reproduction areas. The economic situation of such differing regimes is not accounted for. Thus, one cannot ascertain whether the reduction in fertility in the low polygyny regime is influenced by the rising cost of living or it is simply a trend that arises with changing cultural values.

2.2.6 Women's social status

Reproduction has been observed to be a key factor in many rural women's lives and it is an important aspect that is vastly linked with women's roles in the family and in the community (Harrison & Montgomery, 2001). In many societies, particularly in rural South Africa; issues pertaining to pregnancy, birth and postnatal period lie at the centre of beliefs and ideas about women's role in society (Harrison & Montgomery, 2001). This centrality of social norms and societal expectations around rural women shapes and enforces the construction of gender (Harrison & Montgomery, 2001). According to Harrison and Montgomery (2001) a study conducted among South African Zulu women '*identified and explained the importance of fertility and its place among cultural norms and values*'. A Zulu woman's role in society was found to be that of child bearer as depicted by the strong emphasis on fertility and motherhood (Harrison & Montgomery, 2001).

Bearing in mind the importance and centrality of childbearing in most South African rural societies; women's status is often associated with the total number of children that the women has, including the sex of the children (Hindini, 2000). According to the International conference on Population and Development held in Cairo in the year 1994 and the World Women Conference held in Beijing in the year 1995 it was recognised that issues related to women's childbearing behaviours are related to wider issues of economic, educational status and gender equality (Odotolu, Adedimeji, Odotolu, Baruwa and Olatidoye, 2003).

Gender equality and women's empowerment were observed to be the major factors in promoting and sustaining economic growth and development. According to Odotolu et al., (2003) cultures that emphasise male rights over sexual and reproductive decision making contribute in an important way to women's vulnerability to unplanned and unwanted pregnancies. In addition, cultures that emphasise male dominance over women's rights create difficulties for rural women to communicate contraceptive use to sexual partners (Odotolu et

al., 2003). Also, the age gap between sexual partners where the male counterpart is significantly older than the female counterpart makes it difficult for young girls to exercise autonomy over matters relating to childbearing and fertility. As a result, both urban and rural adolescent girls that engage in sexual relationships with older men often find themselves in unequal power relationships where they are unable to make decisions and take control of their childbearing behaviours, (Oduolu et al., 2003) since the man's experience, age and physical power is generally higher than that of the adolescent.

In addition, poor rural women who depend on sexual relationships for economic survival are often at a greater risk for unplanned pregnancies since they have less leverage around issues of safe sex and condom use (Oduolu et al., 2003). Since traditional authority areas are hardest hit with unemployment and lack of educational opportunities the majority of women in traditional authority areas are without basic skills and are living without hope of employment (Oduolu & Adedimeji, et al., 2003). The scarcity of infrastructure such as schools and health facilities makes it impossible for women to access information about fertility control and physical measure for fertility control. In addition, many women in traditional authority areas are controlled through cultural patriarchal customs and are stripped off their rights to autonomous decision making in the household (Oduolu et al., 2003).

According to Makiwane and Berry (2013); while apartheid policies restricted the movement and development of the Black African population; women seem to have endured a disproportionate burden of the results of racial segregation. While a vast number of men migrated to urban areas to find employment; women generally received the bulk of their income from remittances from their husbands (Makiwane & Berry, 2013). This phenomenon created an emphasis on the gender division of labour where men were expected to find employment and women remained behind in Bantustans to perform household chores.

As a result, women formed part of discouraged workers and used less time on learning than men did, many became uninvolved in social and cultural activities and were largely uninformed about mass media, instead they used more time than double in household unpaid labour (Makiwane and Berry, 2013). Gender socialisation increased women's vulnerability to poverty and in the modern days women continue to be marginalised in terms of socio-economic opportunities; such as paid employment. While some women have been fortunate enough to obtain employment it has become apparent that women still earn less than their

male counterparts, which further exacerbates their vulnerability to poverty (Duncun, 2010, Van Aardt and Coetzee, 2010, 2011).

Bearing in mind the above obstacles which exist to prevent women from exercising their reproductive rights; the importance of empowering women is vital to enable childbearing aged women to take charge of their reproductive rights. Enabling women to take charge of their reproductive rights is vital because the social cost of women's inability to take charge of their lives and control of issues pertaining to their educational, economic and reproductive health can lead to severe disadvantages for the community (Odutolu et al., 2003). According to Odutolu et al., (2003) '*empowerment is the process by which the powerless gain power over the processes of their lives*'. Thus; empowering women will strengthen their power-within to influence resources around them and create intrinsic capability of greater self-confidence to overcome external barriers that prevent childbearing women from accessing reproductive health care (Odutolu et al., 2003).

2.2.7 Area of residence

According to Hall & Posel (2012) area of residence plays a pivotal role in determining the availability of resources that support human development. In respect to the above view Hall and Posel (2012) advocate that in order to understand and formulate interventions to eradicate the existing inequality; one need's to consider the role of place and the context in which children and young women grow up. In the year 2003 the TFR of Uganda was estimated to be 7.1; (Lyager, 2010) meaning that women of reproductive age were having approximately 7 children each; leading to a population growth of 3.4% annually (Blacker, Opiyo, Josseh, Slogget and Ssekamate-Ssebuliba 2005, UNFPA & PRB, 2003).

Differences in the fertility rate were also observed between rural and urban women, with rural women giving birth to approximately 7.4 children while women of reproductive age residing in urban areas were giving birth to approximately 4 children each, (Lyager, 2010). The rate of contraception in Uganda is regarded to be extremely low where approximately 18.2% women of reproductive age use modern contraception out of the entire population (Lyager, 2010). When the urban rural differential was taken into consideration;

approximately 41.6% urban women use modern contraception as opposed to 14.7% of rural women, (UNFPA and PRB, 2003; Blacker et al., 2005).

Unlike Ugandan women, Thai women have had the privilege of a higher social status for a longer period of time; which many women in the world have not had until recently. Based on Lyager's (2010) analysis; at the beginning phase of the demographic transition in Thailand only 15% of married women were estimated to be utilizing contraception and as is always the case the urban prevalence of contraceptive use was higher than that observed in rural areas. Contraceptive use in Thailand increased drastically from 15% amongst married women to 65% in 1984, the increase in contraceptive use amongst Thai women showed the most rapid increase and ranked higher when all countries were taken into consideration (Lyager, 2010).

In pre-transitional Thailand; knowledge of the availability of contraceptive methods and access were scarce throughout the whole country and absent in large parts of the population, which made the cost of prenatal control particularly high. This limitation in the dissemination of contraceptives is evident in the fact that the actual fertility was often higher than the desired fertility (Lyager, 2010). The drastic fertility decline that took place in Thailand is largely attributable to the changes that took place between the late 1960's and 1980's.

Since the end of apartheid in South Africa; South Africa has seen more developments in terms of new infrastructure such as roads, schools and health services (Hall & Posel, 2012). However, such developments have generally been centralised in urban areas while very few infrastructural upgrades have been afforded for people residing in rural areas and traditional authority areas. Thus, due to the unavailability of health services in rural areas a vast number of women have an unmet need for contraception, and this is not only evident in South Africa but it exists throughout the continent of Africa (Hall & Posel, 2012).

According to the World Health Organization (2012) 53% of African women of reproductive age have an unmet need for modern contraception, and the bulk of the above mentioned percentage is largely accounted for by childbearing aged women from Rwanda and Uganda who have the highest unmet need for contraception rates (WHO, 2012). According to a study conducted by Nwachukwu and Obasi (2008) in Nigeria, modern birth control methods were used by 30% of respondents, which means that the bulk of the sample group did not access modern contraceptive methods and had to rely on traditional methods which are often unreliable. According to Creanga, Gillespie, Karklins and Tsui (2011), Namibia has been found to have one of the highest contraception use rates in Africa; which was recorded to be

46% in 2006-07, while Senegal has one of the lowest rates which was estimated to be at 8.7% in 2005.

In Sub-Saharan Africa, extreme poverty, lack of access to birth control, and restrictive abortion laws cause about 3% of women to have unsafe abortions (Rasch, 2011). South Africa, Botswana, and Zimbabwe have successful family planning programs, but other central and southern African countries continue to encounter difficulties in achieving higher contraceptive prevalence and lower fertility rates (Rasch, 2011). Contraceptive use among women in Sub-Saharan Africa has risen from about 5% in 1991 to about 30% in 2006 (Cleland, Ndugwa and Zulu, 2011). Between the period 1980 and the year 2000 the TFR (Total Fertility Rate) of Uganda declined by less than ten percent, which showed no indication of any signs of fertility transition, a phenomenon that had long begun in the West and some parts of Asia.

According to a study conducted by Moultrie (2002) where a comparative analysis was made between the age patterns of fertility among African South Africans with data from other African countries; results showed that the South African age pattern of fertility was similar with that of the region, while the pattern of child spacing was found to be different from that of other African countries. Moultrie (2002) also observed that while it was evident that South Africa's fertility decline was slow; the median length of women's birth intervals had doubled to more than 60 months. According to Camlin et al., (2004) the increase in the total number of months' in-between birth intervals was found to be associated with contraceptive use. The observed increase in the total number of months between birth intervals '*strongly suggests that contraception in South Africa is practiced at the same time to limit the number of children born, and to space childbearing contingent on the age of the mother's youngest child*' (Camlin, et al., 2004).

According to Camlin, et al., (2004) modern contraceptive methods were only made publicly available to African South Africans from the mid-1960s. However, the apartheid government's pre-occupation with attempting to increase White fertility and human agency against apartheid laws fuelled theological opposition and heightened the apartheid governments' fears of being accused of implementing a genocidal population programme. This further delayed the launch of an official contraceptive programme until 1974 (Mostert, 2002). According to Mostert (1977) there was a "*genuine demand*" for family planning services among African women, and the above observation is supported by government

surveys conducted between the periods 1969-70 in four major metropolitan areas of the country. Results showed very low levels of current modern contraceptive use, ranging from 13-24% among women aged 25-34 years (Camlin et al, 2004).

Following the official announcement of the 1974 National Family Planning Programme, a national survey of Africans found an increase in the rates of current modern contraceptive use among urban women. According to Camlin et al., (2004) some 29% of fertile urban African women aged 15-24 years, 33% of women aged 25-34 years, and 27% of women aged 35-44 years were found to be using modern contraception. Thus, when the rate of contraceptive use after the launch of the national programme was compared to the rate of contraceptive use over the five years before the official launch of the national programme, it was evident that contraceptive use among urban African women had increased dramatically (Camlin et al., 2004).

While data for urban contraceptive use can be accessible from government demographic surveys; data on rural women's use of contraception is harder to access (Camlin et al., 2004). According to Camlin et al., (2004) the limitation in accessing information on rural women's contraceptive use is largely the results of the balkanisation of South African "homelands" and service delivery problems which meant that contraceptive availability was limited in rural areas in the early years of the family planning programme (Camlin et al., 2004). By definition, the contraceptive programme operated only in the White areas of the country, leaving the majority of rural African women without a ready access to contraception. Nevertheless, it is of importance to note that the programme expanded rapidly after its official endorsement in 1974 (Camlin, et al., 2004).

2.2.8 Family structure

Family plays a crucial role in Africa, according to Mbiti (1975) *“each person in African traditional life lives in or as a part of the family”*, while Kisembo, Magesa and Shorter (1998) asserts that *“the family community was the fundamental element of the African, this basic sphere of action, through which he became integrated with the larger, human community... he always acted from within the sphere of the family”*. Since the family structure in Africa is held at a noble level; destruction in the family structure is most likely to impinge heavily on the lives of younger children. According to Booth (1996) the extended

family in Africa; most particularly traditional authority areas has proved to be the best provider of security for those who have had no security at all.

While children give status to grandparents the extended family in traditional authority areas also receives the widow, accommodates the wife whose husband has migrated to seek employment and gathers the child who is born to neglectful parents (Booth, 1996). However, as a result of migratory labour in traditional authority areas the extended family system has lost its power in a vast number of households, most particularly since the majority of mothers, fathers and grandfathers have left their homes leading to the creation of tensions, family breakup and disciplinary and motivation problems (Booth, 1996).

Since migration is a reality experienced by a vast number of traditional authority dwellers that have to migrate out of their homes to neighbouring towns and cities in order to secure employment and financial support for their families; a large number of adolescent girls are living in disrupted families. Due to the high rate of migration from traditional authority areas children experience high rates of maternal and paternal absence (NIDS wave 2 overview, 2012). Since most young girls in traditional authority areas are living with the absence of both mother and father they are the ones who face disciplinary problems and are often at risk of early sexual debut and unprotected sexual behaviour (Booth, 1996).

Adolescent girls living in traditional authority areas are hardest hit by premarital fertility, and the age at first birth is much lower in traditional authority areas when compared to the age at first birth in urban areas (Booth, 1996). Reasons for the high levels of fertility amongst young women in traditional authority areas are largely driven by the high rate of unemployment, failure in family disciplinary power, accompanied by extreme lack of infrastructure such as hospitals and government services which would enable childbearing aged women to access contraceptives (Booth, 1996).

The phenomenon of migration has created disruptive changes in the family and left women; mostly grandmothers having to perform dual roles of father and mother; with little attention devoted to the children's development and academic performance (Booth, 1996). As a result, young girls growing up in disrupted families due to migration often lack basic knowledge regarding the dangers of risky sexual behaviour. Hence the reason many of them often become vulnerable to unplanned pregnancies and thus become mothers at a very young age.

The phenomenon of family disruptions and early childhood bearing amongst adolescents is not only central to rural areas within South African countries but it is an ubiquitous phenomenon amongst families whose children have experienced the death of one or both parents or the divorce of both parents (Booth, 1996). Thus, while the benefits of migrated family members are gained through remittances the damage that is often experienced by younger children whose parents have migrated or separated is often larger than can be observed; since all of the disruptions that take place at the family level ultimately add up to influence teenage pregnancy and children's academic performance.

2.3 Socio-Economic Status

2.3.1 Economic Status

According to the Population Reference Bureau (as cited in Lecostaouec, 2006) "income is clearly linked to fertility levels across and within countries". In advanced industrialised economies; fertility is generally lower than the fertility levels that are observed in developing and underdeveloped economies (Aassern, 2005 & Lecostaouec, 2006). However, exceptions to this relationship are observed in rich oil producing states in the Middle East where cultural traditions that foster low status for women also support high fertility (Lecostaouec, 2006). According to Borgerhoff (1998) & Penn (2003) childbearing aged women in advanced economies are inclined to imitate the behaviour of those with highly successful careers and fewer children.

Thus, through observation and imitation, lower levels of fertility spread through a population and ultimately lead to an alteration of cultural norms. According to Aassern (2005) decreased family size in advanced economies has been aligned with status-anxiety; especially among women where the wellbeing and the economic survivorship of the family would be favoured more than an increased family size. According to Daniels et al., (2013) across the three waves of the NIDS; households in traditional authority areas were found to have more household members than those observed in other geographical areas. Interestingly, mean income from government cash transfers in traditional authority areas was found to be significantly higher than the sample average between the years 2008-12 (Daniels et al., 2013). The above finding is highly likely; resulting from more households receiving income from government grants.

Even though it is evident from the three waves of the national income dynamics study that urban households received more labour market income than rural households, rural households were found to be better off than urban informal households during the period 2008-12 (Daniels et al., 2013). Households in rural and in traditional authority areas are most likely to be better off than those in urban settings because they are able to cover for the income gap with crops from agricultural activities and proceeds from livestock, while households in urban settings are largely dependent on the employment sector and often lack the necessary space for farming activities.

Rather than limiting family size and investing on fewer household members; childbearing women in rural areas and many underdeveloped economies generally give birth to more offspring as a means of ensuring the involvement of more individuals in household labour (Aassern, 2005). This phenomenon of childbearing is known as an insurance effect (Weeks, 2012). Through applying the insurance effect method parents hope to depend on children for survival when they are no longer able to work for themselves, and if some of the children die at a young age due to causes of child mortality; parents hope that they would still have other children that will most likely survive to old age and carry on the family name (Weeks, 2012).

According to Makiwane and Berry (2013) the experienced level of poverty in South Africa is largely the result of low/lack of earned income, and despite governments' initiatives to reduce unemployment a vast number of adults still remain unemployed. Lack of economic income has led to tremendous burdens for adults who have the responsibility of taking care of the whole family. Based on a report by Makiwane and Berry (2013) the experienced level of poverty is a reflection of the apartheid governments human settlements patterns; most particularly since the bulk of the poverty stricken individuals are found within former Bantustans; currently known as traditional authority areas. According to Makiwane and Berry (2013) it appears that continued inequality from the era of racial segregation to the current democratic government is largely the cause of the experienced inequality in economic income, resource allocation and attainment of marketable skills.

Poverty in traditional authority areas is one of the major phenomena that have largely contributed to the issue of unwanted pregnancies. As it has been observed in a variety of literature; communities that have a lower rate of employment opportunities and a higher rate of poverty are most likely to experience a staggering HIV prevalence and an increased rate of

unplanned pregnancies (Kirby, 2002). Such unfortunate phenomena are also modelled in schools that cater for the poverty stricken communities. In a school that has a vast number of pupils enrolled for a free lunch, higher school dropout rates and a higher rate of vandalism; it is most likely that a large proportion of students would engage in risky sexual behaviour and would have more rates of pregnancy (Kirby, 2002).

Such difficulties are generally outside of the school and mainly communal based but introduced into the school by the pupils that come from impoverished households. According to Gregson, Zaba and Hunter (2005) high fertility is economically rational in traditional economies where land is held by lineage; in such cases increasing numbers provide the best form of investment available to control the land and its products. This idea of high fertility as insurance for old age still exist even in modern times where there has been a shift from subsistence farming to paid labour; as a result of family ties children end up having to remit money back to their families (Gregson et al., 2005).

Due to the above discussion; the positive correlation between economic income from women's involvement in the industrial sector and the total number of children born that has long been observed in developed economies is still yet to be realised in underdeveloped economies. Country's with underdeveloped economies lag behind in development because there is still a very high rate of unemployment, unavailability of educational facilities in rural areas and in addition; is the rife competition for resources, medical technology and the alarming density dependent mortality (Aassern, 2005). Since poverty and malnutrition is a wide spread phenomenon; preserving the family economic status through limiting family size to a smaller number is rarely possible (Aassern, 2005).

Amongst the countries that have reflected progress in terms of development is the country of Thailand which has moved from an agrarian lifestyle to an industrialized economy where women are part of the industrial sector. According to NSOT (2000) & Udenrigsministeriet (2009), in the 1960's and the years preceding Thailand was predominantly rural and the main industry was the agricultural sector. During this phase Thai women generally had more children because they were viewed as the means to increased economic production (Lyger, 2010). However, as Thailand became more industrialised more women started to enjoy the benefits of being incorporated in the industrial sector and the cost of raising a child became more expensive.

Between the period of 1970 and 1990 the Gross National Products in Thailand increased from US\$210 to US\$1 420, this rise in income also contributed greatly to a decline in the acceptable number of children as preferences shifted to a better quality of life (Lyger, 2010). While higher incomes from the industrial sector could support more children, “*a new emphasis on quality of children as distinct from their quantity led to increases in the costs of children*” (Lecostaouec, 2006). The percentage of children who were involved in the economic sector started to reflect a great decline in the transition phase; which means that children were no longer viewed as an economic source (Lyger, 2010). This decline of children in the economic production was also met with a decline in the total fertility rate as women desired fewer children.

2.3.2 Government cash transfers

Among the policies that were implemented to assist in the improvement of public citizens living standards was the implementation of cash transfers such as social grants. Social grants describe non-contributory cash transfer programmes, targeted at people who are poor or vulnerable (Johnson and Dechaba, 2013). Social grants have been understood to be a driving force behind the amelioration of poverty and reduction of vulnerability by redistributing income (Johnson and Dechaba, 2013).

In addition they have been proven to provide a social insurance function by helping to smooth consumption and avoid plunges into ultra-destitution following livelihood shocks (Johnson and Dechaba, 2013). According to a recent study by Progressus and Gordon (2012) the main objectives of social grants are to reduce poverty among groups who are not expected to participate fully in the labour market, including the elderly, those with disabilities, unemployed women and children, and to increase investment in health, education and nutrition; so as to increase economic growth and development.

According to Lee, Ndlebe, MacQuene, Van Niekerk, Gandhi, Harigaya and Abrahams (2004) social grants enable people and families to avoid destitution and have a marked positive effect on consumption and welfare. Not only have cash transfers been found to have led to the reduction in South Africa’s poverty gap by 49 percent, and the Gini co-efficient inequality measure by seven percentage points, but further analysis of household datasets in South Africa suggests that social grants fuel and support development, reduce poverty, and

lead to improved levels of nutrition, health and education for grant recipients and their children (Lee et al, 2004). Most particularly since there is a large body of knowledge that associates social transfers with improvements in the quantity and quality of food consumption, which improves nutritional status and lowers documented levels of morbidity and stunting (Gertler and Boyce, 2001; Devereux, 2001).

Contrary to the benefits of cash transfers on the public sector some scholars observed the developmental changes between Wave 1 and Wave 3 of the National Income Dynamics study and argued that the rural sector is undergoing a form of compositional change (Daniels et al, 2013). With the literature suggesting that a phenomenon of de-agrarianisation is taking place as households become more dependent on government grants while moving away from agricultural-based activities (Daniels et al, 2013).

Scoones (1998) investigated rural livelihoods utilising a framework that focused on the asset holdings and livelihood activities of different households in two previously marginalised rural communities, namely Khomani San and Dirisanang in the Northern Cape Province. The study found that the two beneficiaries had asset holdings so low that it prevented them from engaging in the process of developing their land and drew upon two main income sources: namely public transfers predominantly for the poor and wage income for the non-poor (Bradstock, 2006).

The child support grant that is currently the main source of income for many South Africans in traditional authority areas is the successor of the state maintenance grant which was initially established for the White minority during the apartheid era but later extended to cover all racial groups (Makiwane, 2010). In the early years of the child support grant most of its beneficiaries were Whites and Coloureds (Makiwane, 2010). According to Makiwane (2010) in the homelands where Black people lived this grant was poorly implemented, and as a result most Black children growing up in poor households were not benefiting from the child support grant.

In addition, while the child support grant has been viewed as a strategy to alleviate poverty amongst unemployed mothers; it has long been rumoured to be misused by young adolescents and older women as a means of sustaining economic income. According to Makoma (2008) while the child support grant has gained much support in reducing poverty some scholars in the discourse of fertility claim that it has contributed greatly in increasing the rate of teenage pregnancy. According to a study conducted by Planned Parenthood

Association of South Africa (PPASA) (2003, as cited in Makoma, 2008) some female respondents on the survey stated that they fell pregnant in order to access the child support grant while some women reported that they misused the money from the child support grant to enhance their physical looks rather than on expenditure of the needs of the children.

Contrary to the above argument some scholars in the field of fertility have stated that there is no positive correlation between the child support grant and fertility (Makiwane, 2010). This statement is also supported by the results of the study conducted by PPASA (2003 as cited in Makoma, 2008) which noted that the child support grant increased from the sum of R100.00 in 1998 to R160.00 in the year 2003 while the total fertility rate reflected a decrease when compared to the previous years. When the amount of the child support grant increased between the years 1998 and 2003; the total fertility rate was observed to have dropped from 26.43% to 16.87% in 2003 which means that the total number of people who were giving birth had decreased (Makoma, 2008).

2.4 Summary

Apart from the policy changes that have taken place in South Africa to include areas that have been previously ignored by the apartheid government; the above discussion suggests that traditional authority areas in South Africa still continue to experience extreme levels of poverty. Thus, based on the legacy brought forward by racial segregation in South Africa; the so-called poverty trap, in the words of May (1998) also known as a vicious circle towards sustained poverty and dependency has since then been the reality of many traditional authority dwellers.

In addition, women continue to be marginalized in traditional authority areas and a vast number of women are prevented from participating in social and cultural activities. Gender roles in former Bantustans have prevented many women from undertaking paid employment as their role is thought to be in the household as bearers of children and caretakers of the household. Due to lack of skills and educational facilities a vast number of women have been surrendered into dependency on government support grants and remittances from migrated family members (Makiwane, 2013). However, it is pivotal to note that such income sources are often inadequate in supporting the entire household and families often have to support their survival with agricultural produce. Religious affiliation has been found by many

scholars to be amongst the contributors in the experienced fertility levels, most particularly since some religions place social and monetary rewards for those who give birth to more children.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

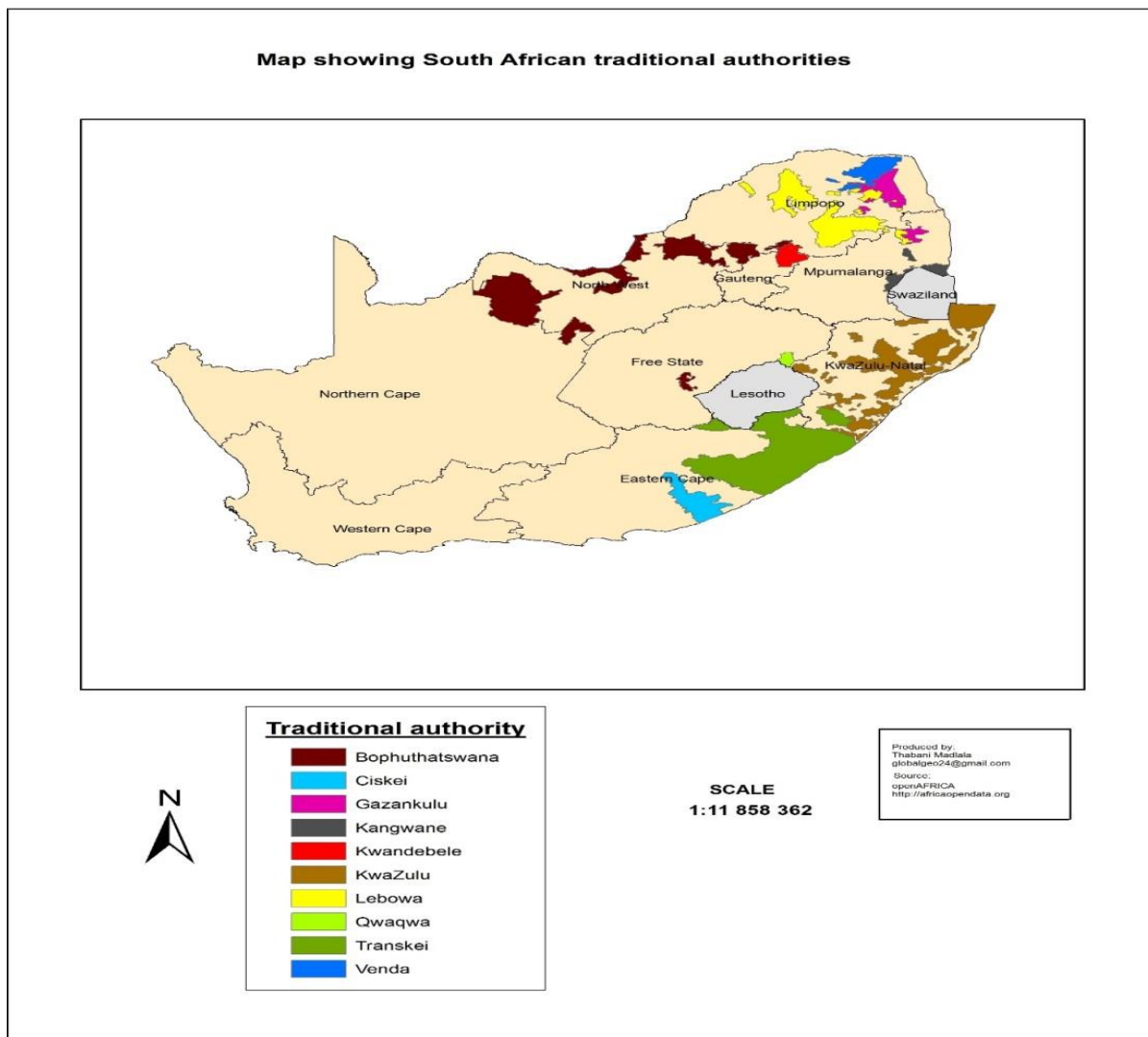
The study draws on quantitative data from the third wave of the National Income Dynamics Study. NIDS is the first nationally representative panel study in South Africa (NIDS, 2012). The purpose behind the initiation of the NIDS study was to understand the development trajectory of South Africa and the composition of its people over a period of time (NIDS, 2012). Starting in 2008 the National Income Dynamic Study collected data related to household structure and composition, household expenditure and income, education, economic activity, labour market participation, and indicators of health and well-being of individual household members. The NIDS data, in contrast, interviewed on average an estimated four individuals per household.

NIDS separates households into four geographical types (henceforth geotypes). There are two rural geotypes, namely rural formal and traditional authority areas. There are also two urban geotypes, namely urban formal and urban informal areas. For the purposes of this study the focus is on traditional authority areas. Traditional authority areas have been chosen as the focus of this paper because they have been left largely underdeveloped by the apartheid government. NIDS was conducted by the Southern African Labour and Development Research Unit in 2008, 2010 and 2012 (NIDS, 2012).

3.2 Study context

According to Statistics South Africa (2011) South Africa has approximately 14.5 million people living under traditional authorities across the country. The province of Limpopo has been identified to have the most traditional authority dwellers, with about 59.2 percent of the people living under traditional authorities. Limpopo was followed by Mpumalanga with 47.3 percent and Eastern Cape with 44.4 percent and KwaZulu-Natal with 43.7 percent (StatSA, 2011). The lowest population living under traditional authorities was found in Gauteng with only 0.9 percent, followed by Free State at 11 percent and the Northern Cape at 11.9 percent (Statistics South Africa, 2011).

Figure 3.1.: Traditional authority areas



Source: Shoji. (2014).

3.3 THE NATIONAL INCOME DYNAMICS STUDY

3.3.1 Secondary data

One of the main advantages of analyzing secondary data is that it is cost-effective as it has been already collected, therefore; resources do not need to be allocated to the collection of data. In some cases; secondary data sets need to be purchased (McCaston, 2005; Boslaugh, 2007). However, this cost is far lower than the cost of collecting data (McCaston, 2005; Boslaugh, 2007). Time is also saved when analyzing secondary data as the data set is often available in an electronic format which has been cleaned and coded (McCaston, 2005;

Boslaugh, 2007). The usually large sample size of secondary data is also beneficial, most particularly since many researchers are unable to collect data from a representative sample of the population due to resource limitations (Boslaugh, 2007). Therefore, nationally collected data is important as it highlights social trends which have policy implications.

Experts and professionals usually inform the planning and collection of secondary data, where complex sample designs and methods of estimating population weights are used which ensures generalizability and allows for the computation of population parameters. Such skills and rigor may not be used when planning and executing smaller research projects (Boslaugh, 2007). The inherent nature of secondary data serves as a disadvantage. This is the case because the data was not collected with the researcher's specific aims in mind. As a result it may be problematic finding data on rare or sensitive topics of interest. It is also possible that the data may not have been collected in the year, geographic space or on the specific population group that the researcher required (McCaston, 2005; Boslaugh, 2007). Therefore when attempting to use secondary data it is important to ensure that the data is able to address questions focused on in the study.

The study will analyze data from the 2012 National Income Dynamics Study (NIDS). NIDS is a household survey conducted by the South African Labour and Development Research Unit (SALDRU) based at the University of Cape Town (UCT). The survey is designed as a nationally representative panel study which tracks and collects data on individuals and the households in which they live, at two year intervals. The tracking and collection of data includes people who have moved from the household in which they were first surveyed, as long as the move occurred within the country's national boundaries. The aim of the survey is to track changes in the well-being of South Africans. Thus the key feature is its ability to follow people as they move out of the 7305 households surveyed in the first wave and set up households of their own. These moves and changes in well-being are captured in the subsequent waves of the study.

The first wave of the study was collected in 2008 which forms the baseline where 28 000 individuals and 7305 households were surveyed. The survey used a combination of household and individual questionnaires which collects information on a wide range of topics such as fertility and mortality, income, expenditure and consumption of households over time.

3.3.2 Sampling

NIDS employed a stratified, two-stage cluster sample design when sampling households for the baseline wave of the study. The first stage of the design included the selection of 400 primary sampling units (PSUs) from Statistic South Africa's Master Sample of 3000 PSUs in 2003. The Master Sample used was the same sample used in the General Household Surveys and Labour Force Surveys between 2004 and 2007 by Statistics South Africa (Leibbrandt, Woolard and de Villiers 2009).

The original sample for the National Income Dynamics Study was selected in 2008 where 10 367 households were selected from 400 Primary Sampling Units across the country of South Africa. Out of the 10 367 selected dwellings 491 were found to be multi-household dwellings, and 7 296 households were successfully interviewed of the eligible 10 858 households (NIDS, 2012). Within the successfully interviewed households 31 144 individuals were identified, out of the total number of identified individuals 2 918 individuals were identified as non-resident members and were thus excluded from the study leading to the final count of 28 226 Continuing Sampling Members (NIDS, 2012).

According to the National Income Dynamics Study a resident member was defined as an individual that usually resided at the dwelling four nights a week. Sample members can either be continuing sample members (CSMs) or temporary sample members (TSMs). CSMs are interviewed in every wave of NIDS whereas TSMs are interviewed only in the wave(s) that they are co-resident with a CSM. Each individual is given a unique code that uniquely identifies them. The code is referred to as "pid" and helps identify individuals across waves.

3.3.3 Inclusion/exclusion criteria

This study will focus on women between the ages of 15-49 who have experienced childbirth. Males are excluded from this study because they are not biologically able to fall pregnant. Female children under the age of 15 and women over the age of 49 are also excluded from this study because they are outside of the age whereby a woman is fertile and most likely to experience childbirth. Though a comparison is made between childbearing aged women in traditional authority areas with childbearing aged women in semi-rural areas, semi-urban

areas and urban areas; this study only focusses on childbearing aged women residing in traditional authority areas. Reference to childbearing aged women residing in semi-rural areas, semi-urban areas and urban areas is only made when comparing them with women in traditional authority areas.

3.3.4 Data collection and procedure

Since this study relies on secondary data; quantitative information of individuals and households in traditional authority areas was extracted from Wave 3 of the 2012 dataset. In the National Income Dynamics Study every resident individual (Continuing Sample Member or Temporary Sample Member) is allocated an individual identifier. Individual interview records are created for all resident household members. The dataset in which the individual interview record can be found is dependent on age at interview and type of interview conducted. Deceased continuing sample members (CSMs) do not have individual interview records as no interview was conducted. Each individual questionnaire maps uniquely to a household questionnaire and household roster file using the household identifier (w`x`_hhid).

The household roster file for each household includes the details of all household members, even if they are not all resident at that household. If a respondent moved outside the borders of South Africa to a private dwelling they are assigned their own household identifier which links to a household questionnaire record in the household roster and individual questionnaire files. If the household refused to participate or there is some other type of non-response (e.g. the household could not be located), the individual questionnaires will still appear in the data files but the outcome will indicate that it was household level non-response.

3.4 Description of variables

The dependent variable in this study is ever given birth, specifically; whether or not an individual has experienced childbirth. The main question used to derive the dependent variable is: *C1.2: Have you ever given birth?* For analysis purposes in this study, a categorical variable was created:

0 = has not given birth.

1 = has given birth

Multiple socio-economic and demographic variables have been analysed and tested to determine their influence on the dependent variable. Since the study makes use of secondary data from the NIDS dataset which is inclusive of the whole of South Africa; it is important when making sense of the independent variables to consider that the extent of childbearing is a context based phenomenon which causes the determinants to vary across different contexts. The independent variables that have been used in this study have been tested as proposed determinants of childbearing among women in traditional authority areas.

Age

Respondents were asked the following question regarding age:

B1 “What is your date of birth?” The variable used to determine the age of the respondent is a derived variable recorded as: *r_best_age_yrs*.

A categorical variable named *reproductiveyrs* has been created where:

0 = other

1 = females aged 15-49 years

In order to capture the different levels of childbearing among females aged 15-49 years, analysis was done on females aged 15-24, 25-34, 35-44 and 45-49 years. This is important as females aged 15-19 years encounter different social pressures from females aged 20-24 years and likewise for females 45-49 years.

Children born by age group

In order to capture the experienced level of fertility within the identified geographic areas this study will also analyse and make comparisons regarding the number of children born per age group. Analysis will be done on females aged 15-24, 25-34, 35-44 and 45-49 years.

Infant survival

Infant mortality is a key determinant of fertility; especially in rural areas where resources such as health care facilities are largely scarce and inaccessible to the vast majority of rural dwellers. Infant mortality is measured through the identified reproductive age groups 15-24, 25-34, 35-44 and 45-49 and comparison is made between the different age groups.

Religion

Respondents were asked the following question regarding religion:

M8 – “*What religion are you?*” and provides the following response options:

- 1 = Not religious
- 2 = Christian
- 3 = Jewish
- 4 = Muslim
- 5 = Hindu
- 6 = African traditional spiritual beliefs
- 7 = other (specify)
- 8 = Refused
- 9 = Don't Know

For analysis purposes, the response options assist the researcher to capture the different levels of childbearing in relation to the women's religious affiliation. It is expected that women of the same religious denomination who reside in different geographical areas would have different fertility behaviours since other variables such as occupational status, education, and marital status also have an influence on the women's' fertility. Moreover, resources such as health care play an important role in influencing fertility. If a women cannot gain access to contraceptives her religious denomination will have little effect in reducing her fertility; regardless of geographic area. The categories other, don't know and refused are combined into one category called other. This religion variable is converted into a dummy variable for the logistic regression analysis where:

- 1 = Not religious
- 2 = Christian
- 6 = African traditional spiritual beliefs
- 3, 4, 5, 7, 8 & -9 = Other

Marital status

Respondents were asked the following question regarding their marital status:

B5 – *What is your current marital status?* And provides the following response options

- 1 = married
- 2 = living with partner
- 3 = widow/widower
- 4 = divorced/ separated
- 5 = never married

For analysis purposes, the response options assist the researcher to capture the different levels of childbearing in relation to the women's marital status. Category 3 and 4 is collapsed into the ever married:

- 5= 0 never married (never married/ living together)
- 1, 3&4 = 1 ever married (married/ divorced/ widowed)
- 2= 2 living with partner

Socio-economic variables

Education Levels:

Respondents were asked the following question regarding their education level:

H1 “What is the highest grade in school that you have successfully completed? Do not count the final year you were in school if you did not successfully complete the year?”

- 1 - No Schooling
- 2 - Primary (Gr. 0 - 7)
- 3 - Secondary (Gr. 8 - 11)
- 4 - Matric
- 5 - College
- 6 - University

The variable related to education levels was coded as follows:

- 0 = 1 No Schooling
- 1/7 = 2 Primary education
- 8/12 13 14 16 17 = 3 Secondary and high school education
- 15 18 19 20/24 = 4 Tertiary education

Employment status

Respondents were asked the following question regarding their employment status:

E1 "Are you currently being paid a wage or salary to work on a regular basis for an employer (that is not yourself) whether full time or part time? If you work for yourself, we will ask about this later"

E28 "Have you engaged in any self-employment activities during the last 30 days? For example, you might buy and sell goods, be a commercial farmer, work for yourself as a doctor or hairdresser or be a freelance consultant"

E63 "How long ago was it since you last worked?"

E65 "What was the main reason you stopped working in your last job/business?"

The variable relating to employment status is a categorical variable and uses a derived variable with the name.

- empl_stat: 0 – Economically inactive
 - 1 – Discouraged workers
 - 2 – Unemployed
 - 3 – Employed

The employment status variable is used as a categorical variable and recorded as is.

Mothers Occupation:

Respondents were asked the following question regarding mothers' occupation:

E4 "What kind of work do you usually do in this job? In other words, what is your occupation or job title? Interviewer: Record at least two words: car sales person, office cleaner, vegetable farmer, primary school teacher, etc". The variable relating to occupational status is coded into a categorical variable.

- occupation: 1 – Managers
 - 2 – Professional
 - 3 – Technical assistant
 - 4 – Clerical

- 5 - Sales and marketing
- 6 – Skilled work
- 7 – Crafts and related work
- 8 – Plant and machine operation
- 9 – Elementary work
- 10 – Never worked

Regardless of the women's age; occupational status plays a critical role in determining the women's age at first birth and the total number of children ever born at the end of the women's reproductive life span. If a women progresses through secondary school and enters postsecondary education she is most likely to prolong the onset of childbearing and less likely to have many children at the end of her reproductive lifespan. Most particularly since more time has been spent on studying and working; with less time devoted to childbearing. Moreover, occupation in a nonstandard form of employment has little effect in lowering fertility since women of childbearing age spend more time outside of employment and have little means of sustaining economic income other than depending on remittances from migrated family members and the child support grant from the state. For analysis purposes, the response options assist the researcher to capture the different levels of childbearing in relation to the mother's occupational status. This occupational status is coded at follows:

Occupation: 1, 2, 6 3, 4, 5 & 8 = 1 Skilled

7 & 9 = 2 Semi skilled

10 = 3 Never worked

Socio-economic status

Part of the aim of this study is to identify possible socio-economic determinants of childbearing among females in traditional authority areas. Therefore a variable that will capture socio-economic status is pivotal for analysis. To measure the effect socio-economic status has on childbearing among women in traditional authority areas, a relative household wealth index is used. The use of this index is suitable because it measures socio-economic position which “refers to the ownership of assets, the income these assets produce, and the consumption that such income permits” (Hallman 2005:39).

NIDS collects a comprehensive household asset list which captures the ownership of 27 possible items. The question is located in Section F: Durable goods and asks: *Does the household own at least one [...]?* And provides the following response options

1. = Yes
2. = No

The asset list includes a wide range of items, with the inclusion of a radio, computer, electric stove and sewing machine to a motor boat, lounge suite, washing machine and private motor vehicle. The variable is constructed by first summing the number of assets owned by the household. K-median clustering is then used to determine ranges of asset ownership. The STATA command that is used to calculate the ranges is: `cluster kmedian numassets, k(5)`. The command is set up to produce ranges which correspond closely to wealth quintiles. This linear and flexible method of determining socio-economic status allows for analysis of childbearing among women in traditional authority areas by wealth level.

- 1= Very high socio-economic status
- 2= High socio-economic status
- 3= Moderate socio-economic status
- 4= Low socio-economic status
- 5=Very low socio-economic status

3.5 Statistical Measures and Methods of Analysis:

For the study presented, secondary data analysis of the NIDS dataset was employed by the researcher to measure the relationship between socio-economic and demographic factors of childbearing among women in traditional authority areas. The quantitative software, Stata version 11, was used for the process of data analysis. The analysis of the research data is separated into three parts. Firstly, the researcher used descriptive statistics which are meant to enable the researcher to explore the characteristics of the sample. Secondly, the researcher used bivariate analysis. Chi-square test was used to enable the researcher to identify a statistically significant association between socio-economic and demographic factors and

childbearing among females aged between 15-49 years. Thirdly, the researcher used regression analysis to test the relationship between the identified independent variables and childbearing (ever given birth) among females aged 15-49.

Logistic regression analysis was used because the dependent variable is a discrete variable with a binary response option – either yes or no. Bivariate logistic regression analysis is conducted where the unadjusted odds of experiencing childbearing for females aged 15-49 years is discussed. This is followed by multivariate logistic regression analysis where the adjusted odds of experiencing childbearing for females aged 15-49 years are explored. In STATA, the `svy: logit` command is used to incorporate sampling weights. All tests are done at the 95% level of confidence ($p < 0.05$).

3.6 Limitations of the study

While the NIDS questionnaires are the key instrument to evaluate socio-economic and demographic determinants of fertility, the differences on the design of the questionnaires between waves 1, 2 and 3 provide some difficulties and limitations on the data that researchers need to be aware of. The most important of these is the changes to the agricultural modules of the household questionnaire. Reflecting back on the literature, an important limitation with the NIDS questionnaires in all three Waves is that it is not possible to calculate the concept of use-value of subsistence agricultural production to the household or community.

Unlike cross-sectional surveys that are always representative samples for their particular point in time, NIDS is made up of longitudinal surveys which cease to be representative of the overall population after their first survey round. The representativeness of subsequent rounds is diminished due to the sample attrition that inevitably occurs over time. While conducting the research study an error associated with the incorrect retention of hypotheses may also occur.

Also since the study uses secondary data there are some problems that may be accompanied by the use of research that has already been collected by another organization. Thus, one needs to be aware of the limitations that the data may have and the problems that could arise

if these limitations are ignored. Firstly secondary data can be general and vague and may not really help the researcher with decision making. Secondly, since the study was conducted on human participants the information and data may not be accurate and may even be too old and out of date.

3.7 Summary

The purpose of this chapter was to provide in-depth methods of analysis employed in the study. Quantitative research methods are employed using descriptive and inferential statistical analysis. Analysis is conducted using wave 3 of NIDS to identify levels and determinants of childbearing among women within their reproductive ages in traditional authority areas. The study sample which is comprised of childbearing aged women was also discussed in this chapter together with the independent variables and dependent variable being investigated. Chapter four presents the results obtained from the study.

CHAPTER FOUR: RESULTS

4.1. Introduction

This chapter presents the main findings of the study; as informed by its objectives, which provide an overview of the factors that influence childbearing amongst women living in traditional authority areas. The data that has been used for the study is taken from the National Income Dynamic Study conducted in 2010. The results represent the subpopulation composed of women of reproductive age (15 and 49 years). The comparisons conducted in this analysis were based on the NIDS Wave 3 dataset, and weighted to make the results to be representative of the population of South Africa.

The presentation of the results begins with descriptive comparative statistics looking at the distribution of women of reproductive age between four geographical areas, namely rural formal areas, traditional authority areas, urban formal areas and urban informal areas. Secondly, this chapter provides an overview of the extent of childbearing among South African females living in traditional authority areas. Thirdly, bivariate and multivariate analysis is used to understand the relationship between the outcome variable (ever given birth) and the various predictor variables.

4.2. Demographic Profile

Table 4.1 presents the demographic profile of childbearing aged women of South Africa in rural formal areas, traditional authority areas, urban formal areas, and urban informal areas; using the NIDS dataset. Of the four geographic areas, urban formal areas have the largest number of respondents (2847) while urban informal areas are represented by the lowest number of respondents (474). The majority of women aged 15-24 are found in traditional authority areas, representing 33.7%, followed by urban informal areas (27.7%). In South Africa marriage is not the norm; and not surprisingly the majority of women are found within the subcategory never married. Urban informal areas constitute the highest percentage of women who have never married (70.1%), followed by traditional authority areas (67.2%). The majority of women who are married are found in urban formal areas (29.1%) and rural formal areas (28.2%).

The study collected information on religious denominations. The majority of women belonged to the Christian faith and few belonged to other religions. Rural formal areas and urban formal areas constitute the highest percentages of Christian women; representing 92.3% and 87.4% respectively. African traditional religions represent the second highest percentage of women after Christianity. The majority of women who are affiliated with African traditional beliefs are found in urban informal areas (12.9%), followed by traditional authority areas (8.2%). The lowest percentage of African traditional followers is observed in rural formal areas with 3.4%.

Young women aged 15-24 are highly represented in traditional authority areas. Thus; it is critical that this age group is guided with proper health interventions since this is a critical stage in an adolescent's life. Most particularly since it is a stage in which one begins to make key decisions regarding one's life and wrong decisions may impinge heavily on one's future (National Research Council and Institute of Medicine, 2005). Many teenagers within this age group experience social, biological, physical and emotional change and develop a sense of self and establish themselves in society. In addition, many adolescents' aged 15-24 experience sexual debut within this age, thus it is critical that they are offered proper guidance as they navigate through this phase.

In addition to the role played by parents and schools; religious institutions have the potential to play a vital role in the development of young people by providing them with guidance, answers and a place to turn to in times of need. Similarly, Denton and colleagues (2008:3) indicate that religious institutions "*are good places to receive advice and talk about problems*". Therefore it is of concern that 5.9% of females in traditional authority areas indicated that they follow no religion.

Table 4.1 Demographic profile of women aged 15-49

VARIABLE	RURAL FORMAL AREAS %	TRADITIONAL AUTHORITY AREAS %	URBAN FORMAL AREAS %	URBAN INFORMAL AREAS %
Number of women	644	2251	2847	474
Ever given birth	76.4	73.6	75.6	74.7
Age				
15-24	26.1	33.7	23.7	27.7
25-34	34.4	28.1	34.8	39.9
35-44	29.4	26.8	32.1	24.4
45-49	10.2	11.4	9.4	7.1
Religion				
No Religion	2.6	5.9	6	5.2
Christianity	92.3	85.8	87.4	81.7
African Traditional	3.4	8.2	4.6	12.9
Other	1.8	0	2.01	0.31
Marital Status				
Never married	13.1	6.3	6.4	11.5
Married	30.1	26.5	35.2	18.4
Living Together	56.5	67.2	58.4	70.1
N	644	2251	2847	474

Source: own calculations from NIDS wave 3, 2012.

Note: Data is weighted

4.3. Socio-economic profile

Table 4.2 presents the sample distribution of all women aged 15-49 by highest level of education, mother's occupation, employment status and socio-economic status. Women who have received no formal schooling represent the highest percentage of respondents in traditional authority areas (5.8%), followed by rural formal areas (4.1%). The majority of women who have completed tertiary schooling are observed in urban formal areas; representing 25.6%. Traditional authority areas represent 11.7% of women who have completed tertiary schooling.

Tertiary level education includes females who have completed a 4 year bachelor's degree, diploma or a post graduate degree (including honours). Having more than a secondary school education increases the chances of finding employment in a globally competitive labour market. This increases the likelihood of financial security and helps people escape the cycle of poverty. Being financially secure also means that females are less dependent on male income earners, which reduces their vulnerability. The majority of women with a primary education as their highest level of education is found in traditional authority areas; accounting for 14.9%, followed by rural formal areas (13.7%).

The majority of women who are unemployed are found in urban informal areas (21.1%), followed by traditional authority areas (21.8%). The percentage of unemployed women in rural formal areas, traditional authority areas, urban formal areas and urban informal areas could be representative of the percentage of childbearing aged women who indicated that they were enrolled in an institution at the time of enumeration. The majority of women who reported that they are employed are found in urban formal areas (49.3%), followed by rural formal areas (42.2%). Traditional authority areas constitute the lowest percentage of women who reported that they are employed (25.6%).

Urban informal areas have the highest percentage of women who are working in skilled professions (57.9%), followed by urban formal areas (19.1%). Women working in semi-skilled professions are highest in rural formal areas (35.6%), while women who have never worked are highest in traditional authority areas (67.7%). Overall, one can observe that in traditional authority areas fewer women are reported to be working in skilled and semi-skilled positions while the majority reported that they have never worked.

Also presented in Table 4.2 is the socio-economic status of all females aged 15-49. The socio-economic status variable aims to loosely capture the wealth status of the household in which the respondent belongs. It is derived by categorizing the number of assets in the household and therefore does not represent individual wealth but rather household wealth. The majority of the sample is classified as belonging to a low socio-economic status households. Traditional authority areas represent the highest percentage of women who belong to the low socio-economic status household, accounting for 84%, followed by urban informal areas (77.4%).

Table 4.2 Socio-economic profile of women age 15-49

VARIABLE	RURAL FORMAL AREAS %	TRADITIONAL AUTHORITY AREAS %	URBAN FORMAL AREAS %	URBAN INFORMAL AREAS %
Level Of Education				
No Schooling	4.1	5.8	0.8	2.7
Primary Education	13.7	14.9	7.3	10.5
Secondary Education	65.4	67.6	66.4	77.4
Tertiary Education	11.7	6.2	18.6	1.7
Mother's Occupation				
Skilled	18.2	8.3	19.1	57.9
Semi-skilled	35.6	23.1	32.2	30.4
Never Worked	46.2	67.7	47.8	11.7
Employment Status(Broad)				
Economically inactive	43.1	49	30.7	35.2
Discouraged Group	1.1	3.7	2.9	4.1
Unemployed	11.8	21.8	17.1	22.1
Employed	42.2	25.6	49.3	38.6
Socio-economic Status				
Very High SES	5.2	2.9	23.8	0.8
High SES	12.5	8.7	24.8	18.1
Moderate SES	6	2.6	2.8	2.9
Low SES	66.5	84	46	77.4
Very Low SES	9.8	1.8	2.6	0.7
N	644	2251	2847	474

Source: Own Calculations using the NIDS Wave 3, 2012.

Note: Data is weighted

4.4 Children born by age group and Child survival

Front table 4.3 the total number of children born to childbearing aged women in traditional authority areas, rural formal areas, urban formal areas and urban informal areas gradually begins at (39.5%), (43.2%), (28.3%) and (36.7%) respectively and continues to increase to the end of women's reproductive life span. Infant mortality has been found to be a reliable predictor of quality of life and level of development because infants born to lower economic households are brought into families that do not necessarily have resources such as food, water, medicine and hygiene that are critical in keeping infants and children alive, and also important in ensuring a better quality of life (Kirk, 1996; Weeks, 2012). Since children are particularly prone to disease, and need more food to develop and grow, proper healthcare, hygiene, nutritious food and clean water are basic necessities that they would not survive without (Weeks, 2012).

Based on the 4 reproductive age categories that have been identified in the analysis, the study found that in all the identified geographic areas the total number of infant deaths increases in the age group 25-34, peaks at ages 35-44 and declines at ages 45-49. In the age group 35-44 it was observed that the total number of infant deaths is higher amongst urban informal areas (26.4%), followed by traditional authority areas (24.8%). In the age group 15-24 the highest record of infant deaths is reported amongst urban informal areas; representing 9.4%. The reason for the low number of infant deaths among the age group 15-24 largely result from the fact that this age group also represent the lowest number of births when compared to other age categories. Thus, out of the total number of women that give birth; very few experience the death of an infant.

Urban informal dwellers aged 25-34 experience higher infant mortality (20.9%) when compared to women living in urban formal areas, traditional authority areas and rural formal areas. This is interesting to note since one would expect traditional authority areas and rural formal areas to have the highest number of infant deaths within the age group 25-34. Most particularly since a vast number of literature has revealed that women in urban areas live in better advanced environments, and are more exposed to health and educational facilities; while women in rural and traditional authority areas live under severe scarcities of development (Kirk, 1996; Weeks, 2012).

When the total number of infants who cried at birth and survived was taken into account, the study found that traditional authority areas constitute the highest number of infants who cried at birth and survived (98.5%) amongst the age groups 15-24, followed by urban formal areas (98.3%). In the age group 25-34 the majority of infants who cried at birth and survived is observed in urban formal areas (93.2%) and rural formal areas (91.5%). The differences in the observed number of infant deaths and survival across the identified geographic areas is largely due to factors which become more important in the multivariate logistic model; such as impacts of education, mother's occupation, employment status and marital status on fertility.

Table 4.3 Children born and child survival by mother's age group

AGE	RURAL FORMAL AREAS %	TRADITIONAL AUTHORITY AREAS %	URBAN FORMAL AREAS %	URBAN INFORMAL AREAS %
NUMBER OF CHILDREN BORN BY MOTHER'S AGE GROUP				
15-24	43.2	39.5	28.3	36.7
25-34	83.3	88.3	86.4	89.6
35-44	88.3	91.9	93.3	89.3
45-49	100	95	94.9	87.6
INFANTS WHO CRIED AT BIRTH AND DIED				
15 – 24	0.6	1	1.7	9.4
25 – 34	7.6	10.6	6.8	20.9
35 – 44	22.9	24.8	12.9	26.4
45 – 49	16.2	26	21.7	53.2
INFANTS WHO CRIED AT BIRTH AND SURVIVED				
15 – 24	83.8	98.5	98.3	90.6
25 – 34	91.5	89.4	93.2	79.1
35 – 44	77.1	75.2	87.1	73.6
45 – 49	83.8	74	78.3	46.8
N	644	2251	2847	417

Source: own calculations from NIDS Wave 3, 2012.

Note: Data is weighted

4.5. Ever given birth

Traditional authority areas have the lowest overall percentage of women who have ever given birth (73.6%) when compared to rural formal areas (76.4%), urban formal areas (75.6%) and

urban informal areas (74.4%). In the age group 15-24; rural formal areas constitute the majority of females who have ever given birth (42.3%), followed by traditional authority dwellers (39.5%). The total number of women who have ever given birth increases at ages 25-34, with urban informal areas representing the highest percentage of females who have ever given birth (89.6%), followed by traditional authority areas (88.3%). In the age group 45-49; 100% of females involved in the study reported to have experienced child birth in rural formal areas, while 95% reported to have given birth in traditional authority areas. Overall, one can observe that childbearing starts early for rural and traditional authority dwellers, and also reflects the highest percentages of women who have ever given birth among the age group 45-49.

With regards to religious affiliation; the overwhelming majority of women who have ever given birth in rural formal areas and traditional authority areas are found within the subcategory other (Islam, Hinduism and Jewish), representing 92.6% and 100% respectively. The subcategory no religion constitute the highest percentage of women who have ever given birth in urban formal areas (84.7%) and urban informal areas (89.4%). The majority of women who are affiliated with the Christian faith and who have experienced childbirth are found in rural formal areas and urban formal areas; both representing 74.9%. Traditional authority areas represent 72.2% of women who follow the Christian faith, while urban formal areas account for 72.7%.

The majority of females who follow African traditional beliefs and who have ever given birth is found in rural formal areas (91.7%). Overall, the category other constitute the highest number of women ever given birth in rural formal areas and traditional authority areas, while in urban formal areas and urban informal areas the majority of women who have ever given birth have no religious affiliation. This is however unexpected since the demographic distribution revealed that in the sample the religion with the highest number of respondents is the Christian faith.

The study found that the majority of women who have ever given birth and have ever married are found in rural formal areas (99.4%), followed by urban informal areas (96.4%). The highest percentage of women who have ever given birth and who have never married are found in urban informal areas (96.4%), followed by urban formal areas (93.3%) and traditional authority areas (93.6%). Overall, the subcategory ever married constitute the highest percentage of women who have ever given birth in all four geographic areas. It is

however unexpected that less women would have experienced childbirth in the never married category since the demographic distribution has revealed that a large percentage of women of childbearing age have never married. Contrary to literature which provides evidence of the increase in premarital fertility (Palamuleni et al., 2007; Swartz, 2004) this study has found that there are more women of childbearing age who are giving birth inside marriage as opposed to premarital fertility.

However, when one takes into account the above categories; particularly pertaining to marital status; even though the percentage of women who have given birth and have never married is less than those who are married it is still alarmingly high (ranging between 65-70%); evident that marriage has lost its significance as a predictor of childbirth. The increase in the total number of women who are giving birth outside of marriage is also highlighted by the total number of women who are cohabiting with their sexual partners. Urban informal areas have the highest number of women who are living with their sexual partners and have also given birth followed by traditional authority areas (65.5% and 65%) respectively.

In support of the above mentioned increase in premarital fertility academic research on marital status and fertility has found that the rate of marriage has been declining in South Africa, and as result it is no longer the norm amongst South Africans. Moreover, with the entry of females in economic production; more especially the labour market, marriage is postponed to older ages or does not happen at all (Palamuleni et al., 2007). As a result; many women of childbearing age now experience childbearing out of wedlock (Kaufman et al., 2001; Palamuleni et al., 2007). In addition, lobola is still a widely practiced phenomenon in South Africa and the decline in the total number of people who are married is most likely a result of global recession and the experienced financial difficulty.

Taking the rate of unemployment into account and the increasing rate of inflation it could be possible that prospective grooms are unable to secure the amount of lobola that is being requested. For example, Kaufman and colleagues (2001:153) indicate that *'the meaning and cost of lobola has changed over time'*. They state that in the past, the standard cost was approximately 12 cows. At present, the cash equivalent is about R10 000. However, they go on to state that *'the lobola amount is largely determined by the bride's level of education and the number and paternity of her children'* (Kaufman et al., 2011: 153).

Table 4.4 Ever given birth by selected demographic characteristics

VARIABLES	RURAL FORMAL AREAS	TRADITIONAL AUTHORITY AREAS	URBAN FORMAL AREAS	URBAN INFORMAL AREAS
	%	%	%	%
Ever given birth	76.4	73.6	75.6	74.7
Age				
15-24	43.2	39.5	28.3	36.7
25-34	83.3	88.3	86.3	89.6
35-44	88.2	91.9	93.3	89.3
45-49	100	95	94.8	87.6
Religion				
No Religion	82.9	81.1	84.7	89.4
Christianity	74.9	72.2	74.9	72.7
African Traditional Belief	91.7	79.7	74.1	79.8
Other	92.6	100	80.8	33.1
Marital Status				
Ever married	99.4	93.6	95.3	96.4
Never married	79	80.3	93.3	96.4
Living together	62.8	65	61.8	65.5
N	644	2251	2847	474

Source: own calculations from Nids Wave 3, 2012.

Note: Data is weighted.

* Significant at $p < 0.05$

4.6 Socio-economic characteristics

Table 4.5 presents the sample distribution of childbearing aged women who have ever given birth by highest level of education, mother's occupation, employment status and socio-economic status. Analysis of the sample indicate that women who have ever given birth and who have received no formal schooling are highest in urban informal areas (100%), followed by urban formal areas (84.6%). The majority of women who have completed tertiary education and who have experienced childbirth is found in traditional authority areas (84.9%), followed by rural formal areas (80.9%). Out of all the identified subcategories the majority of women who have ever given birth in traditional authority areas have completed tertiary education, followed by those with no formal education.

It is concerning that women who have ever given birth and who have primary education as their highest level of education add up to 79.5% in traditional authority areas, 79.3% in rural formal areas, 89% in urban informal areas and 86.2% in urban formal areas. This means that a large percentage of women in South Africa are unaware of existing contraceptive methods; since secondary schooling has been regarded as the most important level of schooling in ensuring that people have access to information about better health care and family planning methods. Thus, a large number of women are forced to rely on traditional fertility control methods which are often unreliable (Weeks, 2012).

In the socio-economic status category the highest percentage of women who have ever given birth is found within the low socio-economic status subcategory. Traditional authority areas have the highest number of women who have experienced childbirth and who are living within low socio-economic status (83.8%), followed by urban informal areas (75.7%). Thus, when taking all the other socio-economic status categories into account it appears that low socio-economic status is the largest predictor of fertility in traditional authority areas, rural formal areas, urban formal areas and urban informal areas. The lowest percentage of women who have ever given birth are found within the subcategory very low socio-economic status; representing 30.9% in rural formal areas, 42.2% in traditional authority areas and 43.5% in urban formal areas.

Women who have never worked represent the highest number of women who have experienced childbirth in rural formal areas (95.1%) and traditional authority areas (84.2%). This is largely the result of unemployment facing many rural and traditional authority areas; coupled with the scarcity of health and educational infrastructure that would play a vital role in ensuring access to information and family planning programmes. Urban informal areas have the highest percentage of women who are working in Semi-skilled occupations (87.4%), followed by urban formal areas (87%). Urban informal areas have the least percentage of women employed in skilled positions and who have ever given birth (58%) when compared to the other geographic areas. In the employment status category, the majority of women who are employed and who have ever given birth are found in traditional authority areas (90.8%), followed by urban formal areas (85.5%). Unemployed women are also higher in traditional authority areas (88.8%) when compared to the other geographic areas.

Table 4.5 Ever given birth by selected socio-economic characteristics

VARIABLE	RURAL FORMAL AREAS %	TRADITIONAL AUTHORITY AREAS %	URBAN FORMAL AREAS %	URBAN INFORMAL AREAS %
Employment Status				
Unemployed	86.8	88.8	80.2	80.9
Employed	84.4	90.8	85.5	84.5
Discouraged	76.9	88.6	65	89.2
Economically inactive	65.4	56.9	58.9	58.4
Level of Education				
No Schooling	82.6	82.1	84.6	100
Primary education	79.3	79.5	86.2	89
Secondary education	73.5	69.6	72	74
Tertiary education	80.9	84.9	81.8	58
Mother's Occupation				
Skilled	62.7	71	75.7	58
Semi-skilled	77.5	80.7	87	87.4
Never worked	95.1	84.2	84.1	74.5
Socio-economic Status				
Very High SES	56	27	24	0.1
High SES	41.3	38.8	24.8	22.5
Moderate SES	60.3	52.5	42.9	31.4
Low SES	72.9	83.8	45.8	75.7
Very Low SES	30.9	42.2	43.5	30.3
N	644	2251	2847	474

Source: Own Calculations using the NIDS Wave 3, 2012.

Note: Data is weighted.

* Significant at $p < 0.05$

4.7 Bivariate analysis

This section examines the relationship that educational level, employment status, religion, mother's occupation and socio-economic status has on the likelihood of ever experiencing childbirth. The logistic regression model has been employed in modelling out the relationships since most of our variables (predictor variables) are categorical in nature. The bivariate analyses indicate that most of the variables have a positive explanatory significance as far as the trends in fertility among women of reproductive age in rural formal areas, traditional authority areas, urban formal areas and urban informal areas are concerned. The employment status variable is analysed by the categories of unemployed and employed. The unemployed category includes females who are unemployed but discouraged from seeking employment and those who are unemployed but are actively seeking employment.

4.7.1 Establishing the relationship between fertility and demographic variables

The outcome variable, ever given birth is regressed against demographic and socio-economic variables. Table 4.6 presents the odds of experiencing childbearing by the above predictor variables. Women aged 20-24 in traditional authority areas (0.03), urban formal areas (0.02) and urban informal areas (0.08) are significantly less likely to experience childbearing when compared to the age group 45-49. Women aged 25-34 in rural formal areas (6.55) and urban informal areas have higher odds of childbearing when compared to women aged 45-49. Overall, females in traditional authority areas have the lowest odds of childbearing compared to females in rural formal areas, urban formal areas and urban informal areas.

This finding is unexpected since literature indicates that females living in former Bantustans; now known as traditional authority areas are at a greater risk of engaging in risky sexual behaviour compared to their urban counterparts, where there are elected political leaders who oversee the development of the community and whose duty is to ensure effective government service delivery (Eaton, Flisher and Aaro, 2003; McIntyre, 2006; Menendez and Branson, 2011). Women aged 25-34 and 35-44 have the highest odds of children ever born compared with women living in traditional authority areas and urban formal areas. The second highest

odds of children ever born is observed in urban informal areas. While traditional authority areas and urban formal areas have the least odds of children ever born.

Females who belong to the Christian faith in rural formal areas (0.62), traditional authority areas (0.61), urban formal areas (0.54) and urban informal areas (0.32) are less likely to experience childbearing compared to females who are not affiliated with a religious institution. Females in rural formal areas who follow African traditional beliefs are more than two times more likely to experience childbearing compared to females who have no religion. Females who have ever married in rural formal areas (47.39), traditional authority areas (3.62), are more likely to experience childbearing compared to females who have never married. Overall one can observe that marital status in rural formal areas and traditional authority areas has a higher association with childbearing when compared to women who are cohabiting with their sexual partners.

Table 4.6 Bivariate logistic regression: The odds of experiencing childbirth

VARIABLES	RURAL FORMAL AREAS		TRADITIONAL AUTHORITY AREAS		URBAN FORMAL AREAS		URBAN INFORMAL AREAS	
	Odds Ratio	P > t	Odds ratio	P > t	Odds Ratio	P > t	Odds Ratio	P > t
Age								
15-24	1.00		0.03 (0.01, 0.08)	0.00	0.02 (0.01, 0.08)	0.00	0.08 (0.01, 0.73)	0.03
25-34	6.55 (1.37, 31.21)	0.02	0.31 (0.15, 1.03)	0.06	0.34 (0.09, 1.34)	0.12	1.21 (0.13, 11.67)	0.87
35-44	9.95 (2.85, 34.73)	0.00	0.51 (0.21, 1.73)	0.34	0.76 (0.17, 3.33)	0.71	1.18 (0.10, 13.66)	0.03
45-49	1.00*		1.00*		1.00*		1.00*	
N	593		2251		2847		474	
Children ever born by age group								
15-24	1.00		0.60 (0.21, 1.73)	0.34	0.76 (0.17, 3.33)	0.71	1.18 (0.10, 13.66)	0.03
25-34	6.55 (1.37, 31.21)	0.02	0.40 (0.15, 1.03)	0.06	0.34 (0.09, 1.34)	0.12	1.21 (0.13, 11.67)	0.87
35-44	9.95 (2.85, 34.730)	0.00	0.03 (0.01, 0.08)	0.00	0.02 (0.01, 0.08)	0.00	1.18 (0.10, 13.66)	0.90
45-49	1.00		1.00		1.00		1.00	
N	593		2251		2847		474	
Religion								
Christianity	0.62* (0.07, 5.72)	0.67	0.61 (0.27, 1.38)	0.23	0.54 (0.17, 1.73)	0.21	0.32 (0.04, 2.68)	0.29
African traditional	2.27 (0.11, 48.17)	0.51	0.92 (0.35, 2.40)	0.86	0.52 (0.12, 2.20)	0.37	0.47 (0.04, 5.51)	0.55
Other	2.58 (0.12, 57.82)	0.55	1.00		0.76 (0.11, 5.47)	0.79	0.06 (0.00, 1.90)	0.11
No Religion	1.00*		1.00*		1.00*		1.00*	
N	642		2242		2839		472	
Marital status								
Ever married	47.39* (4.54, 495.19)	0.00	3.62* (0.93, 14.08)	0.06	1.45* (0.34, 6.12)	0.61	0.98* (0.08, 12.21)	0.99
Never married	1.00*		1.00*		1.00*		1.00*	
Living together	0.45 (0.11, 1.78)	0.25	0.46* (0.14, 1.47)	0.19	0.12 (0.03, 0.39)	0.00	0.07 (0.01, 0.57)	0.01
N	585		2251		2795		466	

Source: Nids Wave 3, 2012.

*Significant $p > 0.05$.

Confidence Intervals are in Brackets ().

Variables for Total number of children born, Children who cried at birth and died and Children who cried and survived have been omitted.

4.7.2 Establishing the relationship between fertility and socio-economic variables

Females who have a primary education and secondary education as their highest level of education in traditional authority areas (0.85 & 0.50 respectively) and rural formal areas (0.81 & 0.59 respectively) have the least odds of childbearing compared to females who do not have formal education. Women in traditional authority areas who have a tertiary education are found to be more likely to experience childbearing compared to females who have no schooling. Females who were not enrolled at an educational institution at the time of enumeration are classified as being not economically active. These lower odds could be

representative of the notion that being enrolled in school serves as a protective factor against risky sexual behavior.

Table 4.7 indicates that unemployed women in rural formal areas (3.46) are significantly more likely to experience childbearing compared to employed women. Also, unemployed women in rural formal areas have higher odds of childbearing compared to women in traditional authority areas, urban formal areas and urban informal areas. Women who are discouraged work seekers in traditional authority areas have higher odds of childbearing compared to women residing in urban formal areas and rural formal areas. Females who work in skilled and semi-skilled positions in rural formal areas (0.51 & 0.18 respectively) and traditional authority areas (0.46 & 0.78 respectively) have higher likelihood odds of childbearing when compared to women who have never worked. In urban formal areas females who work in skilled positions (1.26) have higher odds of childbearing compared to females who have never worked, while in urban informal areas females working in semi-skilled positions have higher odds of childbearing compared to females who have never worked.

As indicated in earlier analysis, the socio-economic variable is indicative of household wealth and not personal wealth. Overall, the analysis shows that socio-economic status is a significant predictor of childbearing for women aged 15-49 years. The results indicate that women who belong to a very low, low, moderate and high socio-economic status in traditional authority areas (3.99, 1.21, 1.10 & 1.23) and urban informal areas (3.87, 19.04, 4.09 & 86.40) are significantly more likely to experience childbearing compared to women who belong to very high socio-economic households. Females living in rural formal areas who belong to high, moderate and low socio-economic households are less likely to experience childbearing compared to females who belong to very high socio-economic households. Overall, in terms of income, except for very low socio-economic status; females living in urban informal areas have higher odds of childbearing in all income brackets when compared to females living in traditional authority areas, rural formal areas and urban formal areas.

Table 4.7 Bivariate logistic regression: The odds of experiencing childbirth

VARIABLES	RURAL FORMAL AREAS		TRADITIONAL AUTHORITY AREAS		URBAN FORMAL AREAS		URBAN INFORMAL AREAS	
	Odds Ratio	P > t	Odds ratio	P > t	Odds Ratio	P > t	Odds Ratio	P > t
Educational Level								
Primary Education	0.81* (0.11, 5.92)	0.84	0.85* (0.29, 2.46)	0.76	1.14* (0.17, 7.47)	0.89	5.81* (0.92, 36.79)	0.06
Secondary Education	0.59* (0.10, 3.33)	0.55	0.50* (0.19, 1.30)	0.15	0.47* (0.08, 2.65)	0.39	2.04* (0.48, 8.61)	0.33
Tertiary	0.89 (0.07, 11.26)	0.93	1.22 (0.38, 3.95)	0.73	0.82 (0.14, 4.88)	0.83	1.00	
No schooling	1.00*		1.00*		1.00*		1.00*	
N	643		2251		2847		466	
Employment Status								
Economically inactive	1.00		1.00		1.00		1.00	
Discouraged	1.75 (0.20, 15.29)	0.61	5.92 (1.53, 22.82)	0.01	1.30 (0.31, 5.50)	0.72	5.87 (0.49, 70.99)	0.16
Unemployed	3.46 (0.54, 22.30)	0.19	5.10 (3.03, 11.85)	0.00	2.84 (1.54, 5.23)	0.00	3.01 (1.10, 8.22)	0.03
Employed	2.85 (0.77, 10.57)	0.12	7.46 (3.94, 14.12)	0.00	4.11 (2.55, 6.62)	0.00	3.88 (1.42, 10.60)	0.001
N	643		2249		2844		466	
Mothers Occupation								
Skilled	0.51 (0.01, 0.49)	0.01	0.46 (0.42, 1.44)	0.01	1.26* (2.29, 1.19)	0.14	0.47 (0.01, 2.27)	0.13
Semi-skilled	0.18 (0.05, 0.71)	0.01	0.78 (0.18, 1.15)	0.43	0.59* (0.68, 2.35)	0.46	2.38 (0.79, 7.21)	0.35
Never Worked	1.00*		1.00*		1.00*		1.00*	
N	577		1901		2536		402	
Socio-economic status								
Very High SES	1.00*		1.00*		1.00*		1.00*	
High SES	0.38* (3.20, 1.18)	0.15	1.23* (0.31, 4.84)	0.77	0.96* (0.51, 1.81)	0.89	86.40* (6.64, 1124.51)	0.00
Moderate SES	0.12 (0.32, 3.152)	0.41	1.10* (1.24, 5.06)	0.90	1.25* (0.39, 4.07)	0.71	4.09* (0.18, 92.40)	0.38
Low SES	0.06 (0.08, 1.91)	0.72	1.21* (0.37, 3.97)	0.75	0.94* (0.53, 1.67)	0.84	19.04* (1.88, 193.31)	0.01
Very Low SES	6.03* (1.23, 5.04)	0.01	3.99* (1.57, 2.20)	0.16	0.77* (0.17, 3.51)	0.74	3.87* (0.11, 140.34)	0.46
N	644		2251		2481		474	

Source: Nids Wave 3, 2012.

*Significant p > 0.05.

Confidence Intervals are in Brackets ().

4.8 Multivariate Logistic regression modelling

4.8.1 Establishing the relationship between fertility and demographic variables

This section focuses on the results from the multivariate regression analysis. The results show the effects of each variable on the odds of experiencing childbearing for females aged 15-49 after adding controls. The same predictor variable used in the bivariate logistic regression are used in this model. Ever given birth is the outcome variable of interest. Females aged 15-24 who live in traditional authority areas (0.05), urban formal areas (0.08) and urban informal areas (0.17) are less likely to experience childbirth compared to women aged 25-34 and 35-44. The odds of childbearing among females aged 25-34 and 35-44 in rural informal areas (4.20 & 3.61 respectively) are higher when compared to the odds of childbearing in traditional authority areas, rural formal areas and urban formal areas.

With regards to religion, females who are affiliated with the Christian faith who live in traditional authority areas (0.76), urban formal areas (0.48) and urban informal areas (0.85) are less likely to experience childbearing compared to females residing in rural formal areas. Females who are affiliated with African traditional beliefs who live in traditional authority areas (1.12) have higher odds of childbearing compared to women residing in rural formal areas. In terms of marital status, females who have ever married in urban formal areas (0.61) have the lowest odds of childbearing compared to women in traditional authority areas (3.95), and urban informal areas (14.58).

Table 4.8 Multivariate logistic regression: The odds of experiencing childbirth

Ever given birth	RURAL FORMAL AREAS		TRADITIONAL AUTHORITY AREAS		URBAN FORMAL AREAS		URBAN INFORMAL AREAS	
	Linearized		Linearized		Linearized		Linearized	
	Odds Ratio	P> t	Odds Ratio	P> t	Odds Ratio	P> t	Odds Ratio	P> t
Age								
15-24	1.00		0.05 (0.15, 2.72)	0.55	0.08 (0.02, 4.44)	0.82	0.17 (0.01, 4.44)	0.41
25-34	0.28 (0.07, 3.76)	0.79	0.75 (0.18, 3.13)	0.69	0.48 (0.10, 2.34)	0.37	4.20 (0.25, 70.10)	0.32
35-44	0.53 (1.19, 8.40)	0.52	0.64 (0.14, 2.59)	0.55	0.83 (0.16, 4.25)	0.00	3.61 (0.17, 75.83)	0.29
45-49	1.00*		1.00*		1.00*		1.00*	
Religion								
Christian	2.51* (0.08, 77.04)	0.60	0.76* (0.07, 8.65)	0.82	0.48* (0.16, 1.43)	0.19	0.85 (0.09, 8.32)	0.89
African traditional	1.00*		1.12* (0.10, 13.08)	0.93	0.26* (0.04, 1.69)	0.16	1.00	
Other	1.00*		1.00		0.58* (0.09, 3.81)	0.57	1.00	
No religion	1.00*		1.00*		1.00*		1.00*	
Marital status								
Ever married	1.00*		3.95* (0.71, 21.10)	0.12	0.61* (0.10, 3.86)	0.60	14.58 (0.17, 1247, 41)	0.24
Living together	1.76* (0.41, 7.55)	0.45	1.26 (0.24, 6.61)	0.78	0.12 (0.02, 0.61)	0.01	0.35 (0.03, 4.69)	0.43
Never married	1.00*		1.00*		1.00*		1.00*	
N	495		1884		2484		361	

Source: Nids Wave 3, 2012

*Significant $p > 0.05$

Confidence Intervals are in Brackets ().

Variables for Total number of children born, Children who cried at birth and died and Children who cried at birth and survived have been omitted.

4.8.2 Establishing the relationship between fertility and demographic variables

Females who are unemployed in traditional authority areas (3.84) are most likely to experience childbearing compared to females who are employed. When controls were added it became observable that belonging to a very low or low wealth household is no longer a significant predictor of childbearing for females aged 15-49 years.

Overall, in rural formal areas and traditional authority areas females who belong to low socio-economic households and median socio-economic households are less likely to experience childbearing compared to females who belong to very high socio-economic households. Women in traditional authority areas and urban informal areas who are living in high socio-economic households have a higher likelihood odds of childbearing (2.93 & 86.40 respectively) when compared to females living in very high socio-economic status households.

It is interesting to note that females living in high wealth households in traditional authority areas (2.93) are approximately more than two times more likely to experience childbearing compared to women living in low and median wealth households (0.70 & 0.66 respectively). Similarly, a same trend is observed in rural formal areas, urban formal areas and urban informal areas. In rural formal areas women who live in low wealth households (0.12) are two times more likely to give birth, and those who live in the median wealth households (0.38) are three times more likely to give birth when compared to females living in very low wealth households (0.06). From the logistic regression model one can observe that as households experience an increase in socio-economic status the odds of childbearing also increase in both the geographic areas.

With regards to educational level; women in traditional authority areas who have a primary, secondary or tertiary qualification have higher odds of childbearing (2.30, 1.88 & 2.06 respectively) when compared to women who have the same level of schooling in rural formal areas. In urban formal areas and urban informal areas women with primary and secondary qualifications have greater odds of childbearing compared to women who have a tertiary qualification. In rural formal areas women with primary, secondary and tertiary level education have lower odds of childbearing compared to women residing in traditional authority areas, urban formal areas and urban informal areas. Women in rural formal areas and traditional authority areas who work in skilled and semi-skilled occupations are less likely to experience childbearing compared to women in urban formal areas and urban informal areas who work in the same occupations. Females in urban formal areas and urban informal areas who work in semi-skilled positions (1.22 & 2.74 respectively) have higher odds of childbearing compared to females who work in skilled occupations.

Table 4.9 Multivariate logistic regression: The odds of experiencing childbirth

Ever given birth	RURAL FORMAL AREAS		TRADITIONAL AUTHORITY AREAS		URBAN FORMAL AREAS		URBAN INFORMAL AREAS	
	Linearized		Linearized		Linearized		Linearized	
	Odds Ratio	P> t	Odds Ratio	P> t	Odds Ratio	P> t	Odds Ratio	P> t
Age								
Employment status								
Economically inactive	1.00		1.00		1.00		1.00	
Discouraged	1.00		1.00		0.29 (0.01, 7.26)	0.45	1.00	
Unemployed	1.96 (0.22, 17.35)	0.54	3.84 (1.47, 10.6)	0.01	1.95 (0.77, 4.92)	0.16	0.72 (0.15, 3.43)	0.68
Employed	3.14 (0.71, 13.93)	0.13	3.04 (0.98, 9.42)	0.05	2.07 (1.00, 4.26)	0.05	0.75 (0.11, 4.93)	0.77
Mother's occupation								
Skilled	0.39 (0.01, 0.65)	0.05	0.39 (0.09, 0.63)	0.20	0.46* (0.21, 1.02)	0.06	0.97* (0.56, 13.39)	0.97
Semi-skilled	0.93 (0.43, 2.01)	0.02	0.93 (0.43, 2.01)	0.86	1.22* (0.54, 2.80)	0.63	2.74* (0.56, 13.39)	0.21
Never worked	1.00*		1.00*		1.00*		1.00*	
Educational level								
Primary	0.46* (0.03, 7.53)	0.62	2.30* (0.39, 13.66)	0.91	3.16* (0.25, 39.41)	0.37	25.37 (0.16, 3967.51)	0.21
Secondary	0.55* (0.05, 5.78)	0.74	1.88* (0.34, 10.36)	0.73	2.08* (0.18, 23.97)	0.56	24.38 (2.13, 278.84)	0.01
Tertiary	0.05* (0.00, 1.54)	0.18	2.06* (0.22, 19.78)	0.65	1.37 (0.12, 16.20)	0.80	1.95 (0.15, 25.59)	0.609
No schooling	1.00*		1.00*		1.00*		1.00*	
Socio-economic Status								
Very High SES	1.00*		1.00*		1.00*		1.00*	
High SES	1.00		2.93* (0.83, 10.36)	0.09	0.96* (0.51, 1.81)	0.81	86.40* (6.64, 1124.51)	0.00
Median SES	0.38* (3.20, 1.18)	0.15	0.66* (1.16, 2.68)	0.56	1.25* (0.39, 4.07)	0.71	4.09* (0.18, 92.40)	0.38
Low SES	0.12* (0.32, 3.152)	0.41	0.70* (0.15, 3.19)	0.64	0.94* (0.53, 1.67)	0.84	19.04* (1.88, 193.31)	0.01
Very low SES	0.06 (0.08, 1.91)	0.72	1.00		0.77* (0.17, 3.51)	0.74	3.87* (0.11, 140.34)	0.46
N	495		1884		2484		361	

Source: Nids Wave 3, 2012

*Significant p > 0.05

Confidence Intervals are in Brackets ().

4.9 Summary

Based on the results of the model above, in rural formal areas, traditional authority areas, urban formal areas and urban informal areas (note the data was weighted for National representativeness), Reproductive age, employment status, mother's occupation and marital status are critical variables affecting a women's reproduction (fertility). In terms of religion Christians had highest odds of childbearing in rural formal areas, while traditional authority areas had the highest likelihood odds of childbearing amongst women attending traditional churches. In rural formal areas women with primary, secondary and tertiary education had the lowest likelihood odds of childbearing when compared to women residing in traditional authority areas, urban formal areas and urban informal areas. Women with primary level education in traditional authority areas were found to have the highest odds of childbearing compared to women residing in the other three geographic areas. Moreover, women in urban informal areas with secondary education had the highest odds of childbearing when compared to women in rural formal areas, traditional authority areas, and urban formal areas. Women who have ever married were found to have higher odds of childbearing in traditional authority areas and urban informal areas.

CHAPTER FIVE: DISCUSSION, RECOMMENDATION AND CONCLUSION

5.1 Introduction

While teenage pregnancy has been defined as a worldwide problem; studies conducted in rural areas have highlighted that a vast number of young people aged 15-18 have experienced their first birth, this has dire implications for their future and academic success. By understanding the social context experienced by people living in rural areas, and more especially; traditional authority areas which have largely been overlooked; resulting from the injustices brought forward by apartheid and its separatist motives, the government of South Africa will be better able to implement policies and programs that would lead to the betterment of people. The study draws on data from the third wave of NIDS which is a nationally representative survey with the aim of providing statistical insight into the social issues of childbearing in traditional authority areas. In light of this, this chapter presents discussions on the main findings of the study. Recommendations and areas for future research are also suggested.

5.2 Discussion

Demographic

Recent research reveals that for South African women; more especially rural dwellers, motherhood starts early while marriage occurs at a later stage (Palamuleni, Kalule-Sabiti and Makiwane, 2007). This shift has been attributed to be a by-product of western influences that have led to the modernization of society where early marriage and the preservation of ones virginity is no longer seen as important (Palamuleni, Kalule-Sabiti and Makiwane, 2007). Out of the total sample of childbearing aged women it appears that the highest percentage of women who have experienced childbirth is predominantly concentrated within rural formal areas, followed by urban formal areas and urban informal areas. Traditional authority areas reflected the lowest percentage of women who have ever given birth. Academic research suggests that women living in rural areas begin childbearing before their urban counterparts. In a report on pregnant adolescents in developing countries it was found that up to 24% of

young females living in rural areas have experienced early childbearing compared with 16% of young females living in urban areas (McIntyre, 2006).

According to Panday, Makiwane, Ranchod and Letsoalo (2009) when using the 1998 South African Demographic and Health Survey they found that the fertility rate was almost double for adolescents living in rural areas (99 births per 1000 women) compared to adolescents living in urban areas (59 births per 1000 women). Similar to many studies which have been conducted in the discourse of fertility this study found that childbearing in rural formal areas and traditional authority areas occurs much earlier than the childbearing of adolescents living in urban areas. According to Menendez and Branson (2011) high levels of early childbearing have been noted in the more rural South African provinces of Mpumalanga and Limpopo. Contrary to academic research that says young females living in rural areas have higher odds of experiencing early childbearing, some studies argue that there is no difference in the risk of engaging in risky sexual behaviour among young people living in rural and urban areas (Eaton, Flisher and Aaro 2003; Manzini, 2001).

However, while some studies present contrary evidence against increased exposure to risky sexual behaviour in rural areas, it is pivotal to note that young females growing up in urban settings have more opportunities than those living in rural areas. Rural areas are currently faced with a lack of educational and infrastructural facilities (Weeks, 2012). The unavailability of basic infrastructure such as roads, hospitals and educational facilities make it impossible for women to access modern fertility control measures or to even acquire education about modern contraceptive methods (Lyager, 2010). Adolescents in urban areas have lower fertility levels compared to traditional authority areas because they are provided with interventions aimed at creating awareness on risky sexual behaviours, better schooling opportunities, advance infrastructural facilities and employment opportunities (Lyager, 2010). Thus, it is critical that when analyzing exposure to risk behaviour and the extent of fertility and childbearing in traditional authority areas; structural issues such as the lack of health facilities and educational infrastructure are taken into consideration.

When the multivariate regression model was conducted the age group 15-24 had lower odds of childbearing than the ages 35-44 in all geographic areas, and also lowest at all age categories. This means that there is a low relationship between being in the age group 15-24 and ever given birth. In traditional authority areas the highest odds of ever given birth are observed in the ages 25-34 and begins to decline at ages 35-44. Overall, the log odds of ever

given birth are highest at older ages in rural formal areas and urban formal areas while traditional authority areas and rural informal areas are highest at ages 25-34.

Other studies have identified a relationship between age and fertility where fertility increases as age increases (Were, 2007; Panday et al., 2009). Similarly, this study found a significant association between age and increases in total number of children born in rural formal areas, where from ages 15-24 to age 25-34 the total percentage of children who cried at birth and survived increases by 7.7%. In traditional authority areas, urban formal areas and urban informal areas the total number of children who cried at birth and survived peaks at ages 15-24 with a subsequent decline in the preceding age groups.

While other studies have identified that the total number of children born to a woman increases with the increase in the woman's age; it has also become visible that the total number of women who report ever given birth increases with the increase in age (Weeks, 2012). This trend has been observed across rural formal areas, traditional authority areas, urban formal areas and urban informal areas. The total percentages of women who have ever given birth peaks at ages 45-49. According to some scholars; the observed increase in the total number of births and the total number of women who have ever given birth between the identified age groups, most particularly ages 25-34 and 35-44 is largely due to the understanding that most women within the above age categories have completed secondary schooling and have entered employment; which allows them to be independent and better able to care for their own families (Weeks, 2012).

In addition, the reason for the increase in infant survival from ages 15-24 and the observed peak between ages 25-34 in rural formal areas is largely due to the fecundity of the age group which allows women the ability to give birth to healthy offspring. However, the percentage of infant survival begins to decline at ages 35-49 due to increased exposure to older age diseases and the bodies inability to successfully undergo the entire process of pregnancy (Weeks, 2012). The association between the mothers' age and risk of infant mortality is also supported by percentages of infant mortality by mothers' age group, where infant deaths increase at ages 25-34 in all of the identified geographic areas and reaches its peak at ages 35-44 in rural formal areas and ages 45-49 in traditional authority areas, urban formal areas and urban informal areas. The observed number of infant deaths has been attributed by many scholars to be a by-product of the HIV/AIDS epidemic; where childbearing aged women fall pregnant and give birth without knowing their HIV positive status and thus become deprived from

accessing antiretroviral treatment that would prevent mother to child transmission of HIV (StatSA, 2011).

The type of religious grouping that an individual is affiliated to is understood to have an influence on the number of children that a women will have and on whether she will choose to utilize contraception or not. Indeed, Addai (1999), Caldwell & Caldwell (1987), Fosu (1981) & Lesthaeghe (1989) have argued that religion has an overriding effect on reproductive behaviour which is independent of socio-economic processes. Thus, it appears that if an individual's religion forbids one from the utilization of contraceptives as means of preventing unplanned pregnancies one would be unlikely to utilize such methods.

When correlations were conducted on religious affiliation and ever given birth it was found that the majority of women who were affiliated with the subcategory other (Islam, Hinduism and Jewish) in rural formal areas and traditional authority areas reported to have ever given birth. While the majority of women in urban formal areas and urban informal areas who have no religious affiliation reported to have ever given birth. In the multivariate analysis; association with Christianity was found to have higher odds of childbearing in rural formal areas, while affiliation to African traditional beliefs was found to have higher likelihood odds of childbearing in traditional authority areas.

According to Palamuleni, Kulule-Sabiti and Makiwane (2007) and Swartz (2004) marriage is an important determinant of fertility, most particularly since it represents the onset of exposure to the risk of childbearing for women. However, contrary to the above studies; other studies that have been conducted on fertility and marital status reveal that there are more women experiencing childbirth outside of marriage than in marriage (Garenne et al., 2000). In line with this notion the study found that more women of childbearing age in urban formal areas reported that they have never married, followed by women in traditional authority areas and urban formal areas. The largest percentage of women within the category marital status who reported that they are living with a partner is found within rural formal areas, followed by urban formal areas.

When correlation tests were conducted on the category marital status and ever given birth the total percentage of women who have ever given birth were found to be higher amongst the subcategory ever married, with urban informal areas and traditional authority areas accounting for the highest log odds of women who have ever married and have given birth. When the bivariate and the multivariate logistic regression was conducted, one observed that

marital status produced log odds greater than 0.05, significant at 95%. Thus, reflecting a relationship with fertility trends among women of reproductive age in rural formal areas, traditional authority areas, urban formal areas and urban informal areas. When the multivariate logistic regression was applied one found that ever married in traditional authority areas, urban formal areas and urban informal areas increased the likelihood odds of ever given birth when compared to women who were cohabitating with a partner.

Variations in the odds of experiencing childbirth between the identified geographic areas is most likely an outcome of the variation in service delivery and access to infrastructural services that are pivotal in reducing women's fertility (Weeks, 2012). While the study provides evidence that the percentage of women who have given birth and ever married is higher than the percentage of women who have given birth and never married; it is pivotal to note that the percentage of women who have experienced premarital fertility is alarmingly high; ranging between 65-70% between all four geographic areas. The increase in the association between never married and fertility in rural formal areas, traditional authority areas, urban formal areas and urban informal areas is most likely an outcome of stage three in the demographic transition theory; where people postpone marriage and cohabitation becomes a preferred phenomenon where couples live together without legally getting married (Weeks, 2013; Swartz, 2006).

The reduction in the total number of people who are married when compared to the past is identified by some scholars to be largely imbedded in the processes that are involved in getting married. According to some studies lobola is still regarded as a very important factor during the process of getting married, and some women of childbearing age have gone as far as deliberately getting pregnant as means of proving ones fertility since it increases the amount of the bride price (Kaufman, de Wet and Stadler, 2001; Swartz, 2006).

Thus, when one takes into account the above understanding of the increasing bride price being a prerequisite for entry into marriage; it becomes apparent that the amount that is expected is a factor leading to premarital fertility since there is a vast number of people that are old enough to be married but cannot be married due to lack of economic means for the bride price. This means that due to lack of economic means the rate of marriage is declining and there are more women experiencing childbirth outside of marriage as opposed to the past where marriage was a prerequisite for childbirth.

According to Woldemicael (2005) traditionally, proving ones fertility was an important determinant to marriage. However; due to more importance being placed on education and contraception use, this practice has weakened with time but still exists in many parts of the world (Woldemicael, 2005). In a study on young people in Limpopo, South Africa, Wood and Jewkes (2006) explain that many young females continue to express importance in being able to prove their fertility as it not only increases their bride price but also elevates them to a higher social status. This realization by Wood and Jewkes (2006) is important and still prevalent in many societies most particularly since a woman's social standing is measured on the number and sex of children that the woman gives birth to.

While premarital fertility may mark a point of entry into marriage for childbearing aged women in some context; it is pivotal to note that this trend is not prevalent in all contexts within developing countries. According to Singh (1998) in some developing communities' premarital fertility is not tolerated and females who experience early childbearing are stigmatized and marginalized. In support of this, Okonta (2007) describes that in the Niger Delta region of Nigeria early marriage is not seen as ideal as it results in early ages of sexual debut which increases the risk of unintended childbearing.

To prevent the phenomenon of premarital fertility many cultures have resorted to the practice of early childhood marriages; where young girls are married early to preserve their sexual purity (Unicef, 2001). While childhood marriages have been identified to be a hindrance in achieving development as its prevent young people from attending school and turns them into mothers at a young age some regions in South Africa, India and Nigeria have been observed to be amongst the countries that have cultures and traditions in support of childhood marriages (Unicef, 2001).

Socio-economic

Childbearing aged women with secondary level education who have experienced childbirth were the highest in urban informal areas, followed by traditional authority areas. Females with tertiary level education who have ever given birth were higher in traditional authority areas, followed by urban formal areas. The demographic analysis revealed that traditional authority areas have fewer females with tertiary level education, and majority of them have ever given birth. Women with no formal education who have ever given birth were found to be higher in urban formal areas and urban informal areas. This is interesting to note since one

would expect rural areas and traditional authority areas to have the highest percentages of women who have ever given birth in the category of no formal schooling. Moreover, this is most likely a characteristic of stage two in the demographic transition theory where birthrates remain high despite improvement in infant mortality; resulting from better nutrition and health services.

The lower number of women who have ever given birth that that is evident amongst women with secondary level education in rural formal areas, traditional authority areas, urban formal areas and urban informal areas is most likely a characteristic of stage three in the demographic transition theory; which is marked by rapid declines in birthrates resulting from improved knowledge and better access to educational and health facilities (Kirk, 1996). This is most likely the case since a vast number of women in urban formal areas, urban informal areas and rural formal areas have attained secondary level education, while a large bulk of women in traditional authority areas are concentrated within the subcategory primary level education and no schooling.

Exposure to secondary schooling has allowed many women in rural formal areas, urban formal areas and urban informal areas the privilege to obtain accurate information and access better employment opportunities. In addition, better access to educational and health facilities, modern contraceptive measures and improvement in the provision of health services has contributed greatly in lowering infant mortality, larger birth intervals and decrease in the total number of children born (Kirk, 1996; weeks, 2012). Thus, women in urban formal areas, urban informal areas and rural formal areas no longer need to apply the replacement effect, where they give birth to larger families as a means of ensuring that some survive to older age (Weeks, 2013).

Enrollment in secondary schooling has been identified by Weeks (2013) and Kirk (1996) to lead to increases in women's chances for economic and social gains and ultimately contribute to a reduced desire for larger families as women become part of economic production. This phenomenon has become evident in many parts of urban formal areas and informal areas as the cost of providing for larger families increases with time and women invest more of their energies in economic production rather than childbearing; as opposed to the past where societies were predominantly agrarian (Weeks, 2012; Kirk, 1996). When the bivariate and the multivariate logistic regressions were conducted the study found that level of education has a relationship with fertility in rural formal areas, traditional authority areas, urban formal areas

and urban informal areas, as observable from the log odds that are greater than 0.05; significant at 95%.

In the multivariate analysis; childbearing aged women living in traditional authority with primary level education were found to have higher likelihood odds of ever given birth compared to females with secondary level education. Issues that currently exist in the education system in traditional authority areas may largely be the reason for the observed association between fertility and level of education (Kirk, 2002). The friction that currently exists in rural schools between teachers and community members and the lack of physical properties for improved education is most likely to impact on the quality of information that learners obtain in school (Kirby, 2002). In addition to educational level; the individual's socio-economic status has been identified by many studies to be an important factor in early sexual debut and early childbearing.

According to Hallman (2005) an individual belonging to a low socio-economic status household is more likely to experience coerced sexual intercourse and early sexual debut. This is largely the case since young girls growing up in low socio-economic households are most likely to seek older men that would provide for needs and wants that they may be unable to obtain from their households (Odutolu & Adedimeji, et al., 2003). This makes it hard for young girls to negotiate safe sex and condom usage since older men possess more power and young girls may fear that the privileges that are associated with dating older men may be taken away (Odutolu & Adedimeji, et al., 2003).

In addition Harrison, Cleland and Frohlich (2008) suggest that sexual relationships characterized by gender inequality and male dominance make it difficult for young females to negotiate the use of contraception. In such settings, the suggestion of the use of contraception represents infidelity which results in females being accused of cheating, and may ultimately lead to situations where women are physically abused, gang-raped and coerced into sexual relations (Okonta, 2007; Harrison, Cleland and Frohlich, 2008). When the bivariate and the multivariate logistic regression were conducted on rural formal areas, traditional authority areas, urban formal areas and urban informal areas it appeared that socio-economic status has a positive influence on childbirth and fertility.

The multivariate logistic regression analysis found urban informal areas to have higher likelihood odds of ever given birth in all socio-economic status categories when compared to very high socio-economic status. Urban formal areas were also observed to have higher

likelihood odds of ever given birth among women within the median socio-economic status category, while traditional authority areas were found to have higher likelihood odds of ever given birth among women within the high socio-economic status category when compared to women within the very high socio-economic status category. Overall the odds of childbearing in all the identified geographic areas seem to increase with the increase in economic status. The increase in the odds of ever given birth with the increase in socio-economic status seem to defy the common view held by many scholars that birth rates drop with the increase in socio-economic status. This phenomenon is vastly linked to stage two in the demographic transition theory where birthrates are alarmingly high irrespective of the improvement in the families' intake of nutrition and utilization of health care services (Kirk, 1996).

While the likelihood odds of ever given birth increase with the increase in socio-economic status; closer analysis of the different categories reflects that there is a minor decline in between some of the different categories, though, it is often followed by an increase in the preceding categories. For instance, one can observe that the odds of childbearing in urban formal areas among women within high socio-economic status declines when compared to women within median socio-economic status and is also lower when compared to women within very high socio-economic status. This phenomenon is similar to stage three in the demographic transition theory; where birthrates decline with the increase in the families' nutritional intake, better sanitation and improved health care. Within this stage of the demographic transition theory economic and social gains, combined with lower infant mortality, reduce the desire for larger families (Kirk, 1996).

Thus, it appears that there are some significant variations within the different geographic areas and the different socio-economic status categories to carefully consider when analyzing the impact of socio-economic status on fertility. In addition, while one would expect rural areas to lag behind in the demographic transition theory; most particularly when economic status is taken into consideration; it appears that more urban women have fallen into the phenomenon of financial dependency to males where they become victims of unplanned pregnancies as their decision making with regards to fertility is controlled by their sexual partners (Okonta, 2007; Harrison, Cleland and Frolich, 2008).

While the South African government has made efforts for the provision of cash transfers as a means of redressing the imbalances of the past and rescuing mothers from extreme poverty (Makoma, 2008). Some scholars have argued that the child support grant has done nothing in

increasing the nutritional needs of beneficiaries in traditional authority areas and instead have led to increases in deliberate pregnancies where rural childbearing aged women fall pregnant to gain sustained income. However; contrary to the above literature this study holds that in traditional authority areas there is no relationship between the increase in level of income and the increase in the total number of children born. To validate this argument scholars have cited the decline in total fertility rates which proves that South African fertility rates are not increasing with the increase in the amount of cash transfers but instead there is an experienced decline (Makoma, 2008).

Similar to many studies which have found mothers' occupation to be particularly important in determining fertility; since secondary level education and tertiary level education opens the gateway to knowledge relating to contraceptives and formal employment opportunities, in this study it was found that mother's occupation has a relationship with fertility. Where women in traditional authority areas and rural formal areas; who work in skilled professions have lower odds of childbearing compared to women who work in similar professions in urban formal areas and urban informal areas.

This is characteristic of stage three in the demographic transition theory where involvement in economic production reduces women's involvement in reproductive behavior as it negatively affects their involvement in the workplace. Interestingly, urban informal dwellers and urban formal dwellers who work in skilled professions have higher likelihood odds of childbearing when compared to women who work in semi-skilled professions. This is characteristic of stage two in the demographic transition theory where birthrates remain high irrespective of women's involvement in economic production (Kirk, 1996)

When the multivariate analysis was conducted on employment status; the study found a significant relationship between employment status and fertility in traditional authority areas. Where employed women in traditional authority areas have lower likelihood odds of childbearing when compared to unemployed women. The relationship between employment status and fertility is significant at stage three in the demographic transition theory; where economic production takes priority and fertility declines with more women becoming incorporated in the employment sector (Weeks, 2012). Overall, the relationship between fertility (as measured by the variable ever given birth) and various demographic and socio-economic indicators in traditional authority areas is influenced by educational level,

employment status, marital status, religion, mothers occupation, age and socio-economic status.

5.3 Recommendations

The identification of employment status as an important factor in determining fertility in traditional authority areas requires more attention in terms of providing female traditional authority dwellers with information and skills that would make them employable in formal occupations. From the study it was observed that the impact of socio-economic status in traditional authority areas and rural formal areas is positive, and fertility decreases with the increase in the level of income. Thus, it is vital that researchers focus more emphasis in this area since it has been found to contribute greatly in early sexual debut and sexual risk behaviour as young adolescents often date older man as a source of economic support.

The impact of education on childbearing is positive for all of the identified geographic areas; which means that researchers in the field of fertility need to put more emphasis on the status of education in all of the four identified geographic areas. Education in both developed and developing nations has been found to contribute greatly in reducing fertility and increasing age at first birth since women stay longer in school (Kirby, 2002 and Weeks, 2013). Thus, it is important that researchers apply more quantitative research in determining to what level women living in traditional authority areas stay in school as well as qualitative research to determine the content of education in traditional authority areas.

The government has a responsibility to ensure that women living in rural areas and traditional authority areas have access to proper infrastructure, including well-resourced health facilities and schools. The availability of such resources would provide exposure to a vast number of rural dwellers with contraceptive methods that are modern and effective as well as proper education on how to better improve their reproductive health so as to reduce the number of infant deaths. Researchers have a responsibility to create a compilation of the total number of health and educational services that are available to people living in rural and traditional authority areas; so as to provide the government with a clear direction of where to focus the countries budget for development initiatives.

Qualitative research will be important because it will provide a narrative picture of how well women living in traditional authority areas are educated about contraceptive use and matters relating to childbearing. Since the impact of level of education has been found to be important in all of the identified geographic areas it is pivotal that the government puts more emphasis towards establishing health facilities where teenagers and older women can obtain contraceptives for fertility control because while schools can offer information it would be ineffective without the means to control fertility.

5.4 conclusion

The demographic transition theory has informed the discussion and understanding of the results. The magnitude of the effects of the identified variables is informed by the context of rural informal areas, traditional authority areas, urban formal areas and urban informal areas. The individuals' age, educational level, religion, marital status, mothers' occupation and socio-economic status were found to have an association with fertility in traditional authority areas, rural formal areas, urban formal areas and urban informal areas, however, with varying degrees. A bivariate and a multivariate regression model was used, based on the results of the model in South African traditional authority areas variables of employment status and marital status, age, religion, level of education and socio-economic status are critical variables affecting women's reproduction (fertility). Such factors influence the log likelihood of ever given birth versus never given birth in traditional authority areas.

Employment status is a significant independent variable because it allows for the analysis of the woman's involvement in the labor market, while marital status and age is particularly important because age of entry into marriage signifies the onset of exposure to the risk of childbearing for women (Palamuleni, Kalule-Sabiti & Makiwane 2007). Understanding the levels and trends of fertility in a particular region by religious grouping is critical when attempting to understand childbearing determinants because religious affiliation is understood to have an influence on the number of children that a woman will have and on whether she will choose to utilize contraception or not (Lecostaouec, 2006). Most particularly since some religious institutions provide incentives and social rewards to individuals that give birth to larger families (McQuillan, 2004). Thus, in situations where religion holds more influence in fertility; aspects like socio-economic status and level of education are most likely to become

unimportant as women perceive childbearing to be an important aspect of spirituality and acceptance in one's religious grouping.

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