POPULATION PRESSURE AND FAMILY PLANNING IN THE CASE OF SUB SAHARAN AFRICA’S DEMOGRAPHIC TRANSITION

By

Jessica T. Ysunza

Advised by

Professor Dawn Brown Neill

SOCS 461, 462
Senior Project
Social Sciences Department
College of Liberal Arts
CALIFORNIA POLYTECHNIC STATE UNIVERSITY
Summer, 2013
Research Proposal

In this paper I plan to examine populations in sub-Saharan Africa that are experiencing developmental complications due to population pressure. First I would like to identify populations that currently have high levels of fertility rates, that are most likely in the second phase of the demographic transition model. These countries are experiencing a population explosion; even though death rates are falling, there is a population imbalance because of a lack of corresponding fall in birth rates. These populations are struggling to reach a leveling off of growth. By investigating populations that fall under this category, I would like to address the most crucial impacts of population pressure that are preventing further development towards reaching a stabilized population structure within their demographic transition. Observed areas of impact include sub-Saharan Africa’s status within the demographic transition and fertility transition models, urban environments, the natural environment, and economic and social spheres. Once these areas that have been affected by population pressure are identified, the place of family planning in relation to decreasing fertility rates will be examined.

By assessing a history of the effectiveness and availability of family planning programs in the past, I hope to identify strategies by which these programs can be useful to local populations. I would like to emphasize the importance of localized, culturally appropriate family planning programs in successfully lowering fertility rates, and furthermore helping to solve issues related to population pressure in sub-Saharan Africa. In conclusion, I propose that educating women, and increasing the inclusion of men in family planning programs, must precede any movement towards initiating effective policy implementation. This project will be accomplished by conducting research on previous studies related to these topics. With a lack of access to personal empirical research, my research must analyze journals and articles that have addressed these issues in the recent past. By comparing different studies and theories, I hope to gain a better understanding on the issues of population pressure and bring forward strategies and ideas of my own.
Annotated Bibliography


This report is a qualitative analysis of the effect of religion on governmental population policies in Nigeria. Evidence of success in Nigeria’s initial family planning program is seen in the southern, but not northern regions. By investigating the perception of planning systems based on a population’s religious background, this study is able to identify strategies that may be effective in reducing fertility rates in the future. Data showed that the different religions that separated the country had highly different opinions on family planning; some agreed in reducing family size, however, disagreed in what methods were acceptable. The perspectives and resulting use of family planning methods were dependent upon religious background, thus supporting the thesis that effective family planning methods must take into consideration the religious values of specific populations. This article supports my thesis as well in emphasizing the importance of localizing methods of family planning programs to suite the cultural and social characteristics of a population.


This article emphasizes the lack of international monetary funding to family planning programs in developing countries, specifically Sub-Saharan Africa. As a crucial population policy, this area has had much neglect in the 1990’s to early 2000’s; allocation
of resources received from high-income countries became directed toward the AIDS epidemic. The article aims to generate a new interest in family planning, as the costs of high populations have detrimental effects on local environments, economies and political systems. Emphasis is placed on the large number of unwanted births in developing countries that are attributed to an unsatisfied demand in contraception. It is proposed that family planning is a cost-effective approach to relieving population pressures and that high-income countries should substantially increase funding. The data gathered from controlled and natural experiments supports my research in emphasizing the power of well-organized and funded family planning programs.


The main goal of this article is to identify possible components of an effective demand-based policy of family planning. The survey was performed in urban Sudan and consisted of interviews with women who were non-users, users, or had discontinued use of contraceptive methods. It was found that birth control methods were mainly used for birth spacing intervals and that a high lack of supply existed even though a high demand remained. This goes against the idea that low levels of contraception prevalence is due to a lack of demand. Data showed that non-users of birth control mainly refrained because of lack of knowledge on contraception use rather than lack of supply. This survey helps to identify how family planning systems can be more efficient in serving a population. It supports my thesis in emphasizing that better education and informational services for women will result in higher contraceptive use, and hopefully, lower fertility rates.

This study examines the relationship between education and fertility in sub-Saharan Africa. It focuses on estimating how education influences birth rates through individual and aggregate effects. It is predicted that educational level of a community has depressing effects on women’s birth rates. By exploring channels that women’s status may operate through, the author identifies that education of other women of reproductive age has a significant effect. By calculating the impact on total fertility of a hypothetical change in educational distribution between individual and aggregate, results showed that an educated community surrounding a woman of reproductive age significantly lowers birth rates. These findings support my thesis that education of women is highly important in lowering birth rates, and further, that family planning programs should focus on an entire community.


By calling for a national level of analysis, this paper focuses on determining the magnitude of impacts of population pressure on agricultural land in Nigeria; empirical evidence provided in this study is needed to guide future agricultural and development policies. The study found that larger areas of land for agriculture are used in the north compared to the south, where high populations result in less land available. From a multivariate analysis, the authors were able to tell that southeastern states experienced the
highest impact relative to variables such as affluence and technology. This empirical evidence shows the need for policy making on settlement redistribution for a sustainable future in a country where a large imbalance exists within agricultural land use. This study supports my research in specifying negative impacts of high populations on land use and helps to determine aspects of rural vs. urban populations which aide in the process.


The main goals of this article are to determine how the use of maternal healthcare differs between teens and older moms and to determine the effect of healthcare among teens in specific regions. The bivariate analysis showed little difference in maternal healthcare by age; however, when certain demographic conditions were controlled for, patterns emerged. Indicators of healthcare use among teens vs. older women were socio-economic factors such as education, social status, and residence rather than age. Research found that in areas where family planning was provided, teenagers almost always had a disadvantage regardless of region. This information is useful in addressing the question of why healthcare services, such as family planning, are non-effective for a particular cohort or region experiencing not only high fertility rates, but also high infant and maternal mortality.

The aim of this article is to explore male attitudes towards family planning and specifically condom use in the context of HIV/AIDS. The study was based in South Africa and included research focused on male opinion and sexual behavior. Majority of men expressed favorable attitudes toward family planning as a way to delay or prevent pregnancies. It was apparent that men were aware of the economic costs of high family size; however, men felt that responsibility for obtaining contraceptive supplies belongs to the woman. The research on attitudinal effects showed that contraceptive use among men was associated with promiscuity, and encouraged wives to be unfaithful. Rather than having planning programs focus on women-controlled methods of contraception, it is proposed that male-controlled methods would encourage shared responsibility. These studies support my thesis in reiterating the idea that socio-cultural norms are a large barrier to contraceptive use; influencing these perspectives that prevent family planning activities may be the first step in creating an effective program.


For this study, women living in a highly populated area of Nigeria were interviewed on their knowledge, attitude, and practice of family planning. The study aimed to find relationships between these three variables and identify barriers to their use. Other factors were considered such as women’s education, marriage status, and religion.
Majority of women were knowledgeable and approved of family planning methods, however, practice was low. The most common source for these resources was health workers and the most common barrier to non-practice was rejection by husbands. The cultural influence of men on wives outweighed the high levels of knowledge observed in females. The study concluded that by placing an equal emphasis on educating men as women, a shared responsibility of reproductive outcomes might be recognized. This research helps my project in identifying what are significant barriers to the utilization of family planning services when they are made available.


Drawing from U.S and International family planning projects, this article focuses on unintended pregnancies as a common ground for environmentalists and family planning advocates. A large emphasis is placed on the dramatic change humans have made on the ecosystem in the last 50 years, and that provision of family planning services is the most direct intervention to slow growth and aid in environmental preservation. Data collected from three different family planning projects supports this theory and shows that with the proper spending and education within these programs, degradation of local environments has been reduced. It is proposed that if environmental organizations make a contribution by educating policy makers and public about a need for global action, then family planning can significantly reduce human impact on the environment. This article supports my thesis in that raising global awareness and seeking attention from a variety
of sources, such as environmentalists, will better help the success of family planning services.


This article is a comparative analysis of the demographic evolution of different countries in Africa since 1950; it aims to identify the major components of change and of the growing diversification of the situations in the region. The article concludes that Africa is conforming to the classic path of the demographic transition theory; however, only a minority of the countries are conforming smoothly, without breaks or reversals to the usual patterns. Data shows that growing heterogeneity in the pace and modalities of the transitions are a result of the diversity of social policies, economic development, the environment, and the political history of each country. As Africa goes through phases of varying social and regional disparities in its demographic transition, different patterns of adaptation emerge to respond to these factors. Acknowledging differential survival strategies strengthens my thesis in understanding the importance of the co-existence of each countries stage in the transition process. This will help my project because it demonstrates the subjectivity of each country in its demographic transition and the prevailing social, economic, and cultural trends that stand in the way of lowering fertility rates.
Outline

I. Introduction

II. Africa and Demographic Transition Model
   i. Overview of placement in Stages
      ▪ Diversification of transition patterns
      ▪ Growing heterogeneity
   ii. Commonalities within countries
      ▪ High fertility rates
      ▪ High infant mortality rates
      ▪ Slow development
   iii. Population increase as cause vs. consequence of economic growth
      ▪ Population theories
         - Malthus
         - Boserup

III. Fertility Transition
   i. Variation in statuses
      ▪ Channeled through cities
         - lowering infant mortality
         - health care progress
   ii. Spatial Trends
      ▪ Rural vs. Urban
         - Opportunity costs of children
         - Contraception use
   iii. Cultural Values
      ▪ Contraception use
         - Birth spacing vs. prevention
         - Social stigma
      ▪ Women’s Status
         - Measurements of in DTM
IV. Population Pressure

i. Urbanization
   - Rural - Urban
     - Carrying capacity
     - Sanitation

ii. Africa’s recent entry into DTM
   - Changes in Pre vs. Post 20th century measures of improvement
   - Economic Growth
     - Competitive job market

iii. Environment
   - Unsustainable use
   - Depletion of natural resource base
     - Agricultural land
     - Freshwater Resources

V. Family Planning

i. Importance of contraception use

ii. History of family planning program prevalence

iii. Supply vs. Demand
   - Unmet need

iv. Preventions of Planning Program use
   - Poor Availability: Funding
   - Cultural Values: Patriarchy and Polygyny
   - Educational level of women

v. Flaws in Family Planning Programs
   - Lack educating women
     - Diversity of methods
     - Proper usage
   - Lack inclusion of males
- Methods favor women

VI. Solutions

i. Localize Family Planning Programs
   ▪ Consider: level of women’s current education, age cohorts, religion, cultural values

ii. Education of women
   ▪ Effect of primary vs. secondary
   ▪ Empowerment

iii. Inclusion of Males
   ▪ Male commitment
   ▪ Education
     - HIV/AIDS prevention

VII. Conclusion
I. INTRODUCTION

The world’s total population has been expanding at alarming rates since the Industrial Revolution. When comparing the growth of populations worldwide, it is apparent that each world region is characterized by differing population structures. Although several world regions have experienced reductions in growth rates in recent decades, it is evident that certain world regions are still experiencing rapid population growth, which poses a threat to their internal development. These populations may be growing at a rate that will result in severe damage to social, economic and environmental spheres if population growth does not slow.

Sub-Saharan Africa, (SSA), is one world region that that is currently experiencing developmental complications due to population pressure. This world region has experienced a multitude of hardships relative to its nation’s political, economic, social, and environmental stability beginning with colonization and through to current exploitative practices today. However, one positive thing that other nations can do to aid in SSA internal development is to help stabilize the region’s population growth. The energy spent when seeking to provide for overpopulated regions is taxing on all human and natural systems; the economic, social and cultural spheres of SSA populations are in jeopardy of being harmed as the synergetic relationship between these elements is altered by overpopulation.

Population expansion, throughout history, has had measurable impacts on the social and natural environments of any given population. Coinciding with population growth is the ability, or lack there of for populations to adapt to resulting changes; these adaptive capabilities are seen by the ability to utilize resources in more efficient, and
inventive measures as a means to subsist. Modern day humans have the ability to manipulate nature in ways to provide for our growing numbers; however, we also have acquired the ability to manipulate our growth by controlling fertility rates. By manipulating rates of natural population growth, humans have come closer to influencing the world’s population as to reach greater equilibrium within our human and natural systems.

The globalization of modernization has had profound effects on populations worldwide. Observing changing demographic structures has made noticeable an important trend: lower fertility rates are observed in concurrence with changes seen in modernized societies. Modernization takes different shapes and forms dependent upon a given region, yet when studying population structures it is crucial to note that a decline in fertility is observed amongst all modern societies. This fertility transition is necessary for SSA regions to experience in order for its population to stabilize. I would like to address the most crucial impacts of population pressure that are preventing further development and movement of SSA regions towards reaching stable population structures. Once these areas are identified, the place of family planning in relation to decreasing fertility rates will be examined.

By assessing a history of the effectiveness and availability of family planning programs in the past, I hope to identify strategies by which these programs can be useful to local populations. With a cultural and social landscape as diverse as SSA the implementation of localized, culturally appropriate family planning programs cannot be emphasized enough. A multitude of factors influence the motivation of individuals to utilize family planning, and these individual needs must be met in order for family
planning programs to be successful in lowering birth rates in order to stabilize the region’s population. The effect of education of women and men on reproductive outcomes will be explored and an emphasis placed on the importance of both. Further, the future of effective family planning programs lies in the inclusion of males in program outreach and implementation. The cultural structure of SSA families speak to the necessity of educating men and women on the shared-responsibility of reproductive outcomes and decision-making before such a foreign ideology like controlled fertility may be adopted. These changes in future family planning program policy are some of the most important measures that can be taken in order to aid in this region’s development. Lowering fertility rates and stabilizing population structures will relieve current stressors of population pressure that serve as a threat to SSA internal development.

II. AFRICA AND THE DEMOGRAPHIC TRANSITION MODEL

The demographic transition model (DTM) was developed by demographer Warren Thompson in the early 20th century. This theory has helped us to understand profiles of different populations and allows insight into characteristics of differing social and economic systems as they transition from pre-modern to modern societies. This is a retrospective model that measures a country’s population growth by means of birth and death rates; a pattern of transition from high birth and death rates to low birth and death rates parallels a population’s movement into modernization (Strulik, 1997). The theory is used for predictive measures, however, does not determine the causal factors that influence each stage. According to Bongaarts (2009), “The global demographic transition began in the nineteenth century in the now economically developed parts of the world. These transitions are now more or less complete. The demographic transitions in Africa,
Asia and Latin America started later and are still underway” (p. 2986). Countries that are currently considered modern began this transition towards fertility decline earlier than pre-modern regions such as SSA, who began their transition recently and are presently at earlier stages. The rate at which these countries have experienced this transition varies greatly as well. According to Tabutin and Schoumaker (2004), results from a comprehensive demographic survey of SSA indicated that unlike other regions in the world, SSA experienced a steady increase of its population growth between 1950 (2.2%) and 1985 (2.8%). With these rates, the population of virtually all of Africa’s countries tripled in 35 to 40 years, and the total population of SSA grew from 177 million in 1950 to 504 million in 1990. Developing countries who are currently in the beginning stages of the DTM are experiencing changes within generations, compared to countries that began the transition in the 19th century whose shift has been slower.

The DTM consists of four major stages. Summarized from studies of human population by Bongaarts (2009), stage one is characterized by high birth and death rates; an approximate balance between these rates results in slow growth. This stage is representative of pre-industrial societies. Pre-modern countries are said to be in stage two; death rates have dropped and birth rates remain high, thus resulting in a net increase in population. Countries in stage two are experiencing a population explosion and do not become stationary in growth until stage three. A drop in birth rates characterizes stage three and population growth levels off. Finally, stage four is marked by low birth and death rates where modern countries experience contracting population structures. Most regions of the world easily identify with what stage they fall under within the DTM. An anomaly to this pattern of consistency within continents is SSA. Tabutin and Schoumaker
(2004), found that “In the second half of the 20th century the population of SSA grew very fast, and even at an increasing pace between 1950 and 1985, with gradual diversification among countries because of the different pace of fertility decline, but also because of AIDS in the most affected countries or sub-regions” (p 464). Complex social, economic and political histories between countries have complicated determining which stage of the DTM is current for Africa; much geographic variety exists when considering the diversification of individual transition patterns.

III. DIVERSIFICATION OF TRANSITION PATTERNS

Africa is conforming to the classic path of the DTM; however, only a minority of the countries are conforming smoothly, without breaks or reversals to the usual patterns. Tabutín and Schoumaker (2004) have categorized data by four main patterns that indicate SSA’s growing demographic heterogeneity is a result of subjective factors for each country.

- The traditional pattern is marked by declined mortality but still high birth rates; majority of West, East, and Central African countries fall here.
- The classic pattern of change demonstrates slow growth because unlike the traditional pattern, birth rates have declined in the last 20 years.
- The AIDS perturbed pattern is seen in South African countries whose growth significantly declined after 1990 due to resumption of mortality caused by the AIDS epidemic.
- The war perturbed pattern displays brutal mortality due to conflicts and resulting impoverishment.

As Africa goes through phases of varying social and regional inconsistencies in its demographic transition, different patterns of adaptation emerge to respond to these factors.

Most of Africa displays a progressive decline in total fertility rates; however, this is occurring at an uneven pace. Tabutin and Schoumaker’s (2004) study found that much homogeneity in total fertility rates was seen in all countries in the 60’s: overall fertility was 6–8. However, growing spatial trends have led to great heterogeneity among countries and current total fertility rate ranges from 2.6 – 8 (p. 474). Characteristic among all African countries is early timing and high levels of adolescent fertility. Early marriage is a social norm in African culture and trends towards single life are not observed in significant amounts until populations move from rural to urban areas. Several spatial and cultural disparities in marriage patterns exist when examining trends of fertility; however, SSA overall displays high levels of fertility compared to other regions of the world.

IV. POPULATION INCREASE AS A CAUSE VS CONSEQUENCE OF ECONOMIC GROWTH: POPULATION THEORIES

Sub-Saharan Africa has proven to be an anomaly to the general ease in which countries can be placed into the DTM. Although birth rates may be declining in general for the entire continent, high levels of fertility and mortality do exist and may be influencing Africa’s development as a whole. Population growth as a cause or consequence of economic development is a questionable matter; however, it is undeniable that humans are strongly dependent upon their immediate environment and
that resource utilization affects the well being of any population. With patterns of modern countries leveling off or decreasing in population growth and pre-modern countries experiencing high population growth, it is curious what external factors may influence SSA development. Long before these recognized patterns were developed into the DTM, theories of population growth on social and economic scales were being developed.

A major contributor to population theory is Thomas Malthus, as an English scholar, he was a very influential mind in political economy and demography. Particularly, his work, *An Essay on the Principle of Population*, has sparked much debate on issues related to population pressure; yet, these insights made in the early 19th century have anticipated numerous challenges we face with population pressure today.

Malthusian theory has many applications to present population issues; postulating the trajectory of human populations in a time when global demography was radically different than it is today is admirable. In a time when global population was only a bit over one hundred billion, Malthus theorized that human populations could increase more rapidly than what can be accommodated by arable land (Goldewijk, 2005). Malthus noted that population increases geometrically while food supply can only increase arithmetically, thus population will always outstrip food supply. In an era of European Enlightenment it was difficult to accept the idea that humanity as a whole was inevitably on a trajectory to overtax the environment, and would experience hunger, poverty, and malnutrition.

Global issues such as malnutrition, hunger, resource conflict and global warming were not predominant areas of concern in 18th century Europe, however, Malthusian theory recognized that population growth would not go unchecked. These issues are now
of great concern in modern times and a strong relationship exists between human populations and their supporting environment. As populations expand, there are definite constraints, or checks that regulate a population’s ability to subsist. Malthus categorized these checks into positive or preventative. Positive checks raise the death rate and include factors such as hunger, disease, and war; preventative checks lower the birth rate and include factors such as birth control, celibacy, and postponement of marriage (Brander, 2007). Written in 1798, In An Essay on the Principle of Human Population, Malthus said, “The power of population is so superior to the power of the earth to produce subsistence for men, that premature death must in some shape or other visit the human race” (p. 13). To Malthus, the positive checks were inevitable, and the preventative checks were seemingly unattainable if a change in moral values was necessary.

Malthus doubted that moral restraint, or abstinence, would ever become a common practice, and it is precisely this that gave his doctrine a pessimistic hue: there were remedies against the pressure of population, but they were unlikely to be adopted (Young, 1994). Over 200 years later, however, medical technology has provided us with artificial forms of birth control: a preventative check, in Malthusian terms, that has potential to be a modern remedy. Malthusian theory is still relevant to the 21st century; a relationship of checks and balances will always exist between a population and the land on which they live; this is a constant. What is distinct about humans of the 21st century, however, is obtaining the ability to regulate our birth rates without practicing celibacy. Thus, the moral restraint that Malthus once proposed to be the obstacle in preventing population growth is a thing of the past. With present day contraceptive medical technologies we are capable of keeping populations in check by preventative measures
that lower birth rates. As a modern translation of Malthus, it is now clear that lowering fertility rates is a requirement to achieving sustainable development.

Contrary to Malthusian theory, yet categorized in the same general theoretical framework is Ester Boserup’s theory on population growth. Both of these theories address the issue of increased demand for food with increasing populations, but have different answers as to how to build a sustainable population that will survive on resources. Rather than positing that food supply determines population, Boserup argues that population determines agricultural methods. With a more optimistic outlook on human nature and the power in numbers and ingenuity, this theory suggests that humans will respond to population growth by creating new agricultural methods to support higher numbers, thus aiding rather than limiting expansion.

It is important to understand these differing theories of population pressure in their own historical context. Boserup’s framework was developed in the 20th century; the ability to reflect on the influence of technology and globalization on agricultural production highly influenced this theory. Malthus wrote his essay in 1978, before the Green Revolution; exclusion of technology makes his theory a bit inaccurate when applied to present day situations. In a world of over 7 billion, the intensification of agriculture has drastically changed the amount of food capable of being produced per unit of arable land. However, this is not to say that the distribution of food and allocation of technological resources has been equal throughout the modern and pre-modern worlds. Technological innovation has allowed for increased crop yields, yet in a free market economy the distribution of agricultural wealth has left large numbers of people with inadequate food supply in pre-modern nations. Boserup was correct in predicting that
ingenuity would outmatch demand; however, in many parts of the world, a lack of resources has left communities with high fertility rates at a loss. By-products of population pressure such as poverty, malnutrition, and environmental degradation are seen in developing regions even though global food production has increased since the Green Revolution. Each theory acknowledges the presence of population growth but the question is, how will population be kept in check, how will the utilization of resources keep up, and how will social and demographic structures respond.

The theories of Malthus and Boserup were developed well before the world experienced its population explosion; however, the ability to apply these theories to present day situations holds merit. Factors such as birth control and intensive agricultural affect fertility and developing regions and must be taken into consideration when assessing global population growth. When a population is not sustainable a change must occur. Today, populations certainly are kept in check by more modern measures, and a resulting fertility transition is observed. Long term declines in the number of children per woman has occurred throughout the world; this pattern is just recently emerging in regions that are entering the beginning stages of the DTM. SSA has entered a stage of interregional fertility heterogeneity, and several trends exist within the countries who are currently experiencing transitions towards lower fertility patterns.

V. FERTILITY TRANSITION

Some SSA countries may be going through the initial stages of the fertility transition. The reduction of fertility rates is the most significant change in fertility patterns for a population to move from stage two to stage three in the DTM (Tabutin & Schoumaker, 2004). As birth rates fall in stage three, growth of a population levels off.
Kalipeni (1995) hypothesized “that cultural and socioeconomic factors are to be important spatial correlates in the variation of fertility and consequently the onset of the fertility transition now under way” (p. 287). Many parts of SSA are considered stuck in stage two of the DTM, yet factors that are hypothesized to initiate a decline in birth rates such as urbanization, contraception use, and higher education of women are observed in several regions.

The fertility transition is localized, or channeled through major cities in developing regions of SSA. Along with urbanization comes a major shift in culture; people are exposed to economic, social and educational opportunities that may not have been available before. These changes in cultural and social structures make for an environment that alleviates some factors that contribute to infant mortality. Access to resources such as health care and education impact fertility decisions by keeping infant mortality low, and as a consequence fertility rates among women remain low. Compared to these low risk environments however, Kalipini (1995) states that in high risk environments “because of comparatively high childhood mortality throughout the developing world, many women have felt the need to have more children to ensure that some will survive to adulthood” (p. 296). It seems to be an innate desire in all mothers to birth and raise healthy children; when infant mortality is high, there is more incentive for women to have more children. Conversely, lower levels of infant mortality are strongly correlated with lower fertility rates. The significance of infant mortality in stalling fertility transitions is emphasized by Tabutin and Schoumaker’s (2004) findings, which indicated that no fertility transition has taken place without a drop in infant mortality or without health progress.
VI. SPATIAL TRENDS OF FERTILITY: RURAL VS. URBAN

Spatial trends exist between SSA rural versus urban populations and fertility rates. Different models of adaptation or response to crisis and to progress are emerging; life strategies, in fertility as in other areas, are becoming diversified. On the whole, fertility rates in different types of environments are no longer similar, as they used to be in the 1970s. According to Tabutin and Schoumaker (2004), “In every country, urban fertility is noticeably lower, with between 3 and 4 children, against 5 to 6 children in rural environments. In the capitals and large cities in particular, fertility is markedly lower than elsewhere, the ideal family size is smaller, marriage is later and polygyny less common” (p. 478). Several push and pull factors exist which these fertility transitions are contingent upon; however, expansion of opportunity structures and enhancement of fitness are driving factors.

Ecological risks and opportunities influence the transition from rural to urban environments. Differences in parental investment strategies maintain the regionally and culturally different values of fertility patterns. Coinciding with modernization and urbanization is a transition from quantity to quality based investment strategies. The expected payoff perceived by the parent is a force driving these decision-making processes. Neill (2010) found that “parental investment in quality and quantity corresponds to parental perceptions of extrinsic risk, which in turn correspond to migration status, indicating that parental strategies do respond to perceived limits on investment payoffs” (p. 165). Investment decision-making shifts are dependent upon ecology; in urbanizing African societies, low-risk environments call for a reduction in fertility so that allocation of resources can guarantee a high quality offspring. The high
levels of risk found in rural settings helps to explain quantity based fertility patterns. The differing social and economic spheres found in rural versus urban environments require ecologically specific skills sets for success, thus investment strategies are tailored to prepare offspring for specific environments. Several external factors influence fertility decisions and it is clear that social and regional differentials are established in conformity with the geography of fertility.

VII. FERTILITY PATTERNS AND CULTURAL VALUES

Many countries have now reached, or are close to, the 50% threshold of urbanization, and this movement towards big cities is likely to continue in the future (Garenne, 2002). With urbanization comes a dramatic introduction and shift of cultural values. As more men and women in SSA live in cities instead of rural areas, modern behaviors and consumption patterns, including health services and family planning are induced. One of the greatest factors in reducing fertility rates among populations with exceedingly high birth rates is contraception. The decrease in fertility rates associated with urbanization may be viewed in relation to increased access to contraceptive methods. This type of correlation also suggests reverse causality: the mere presence of contraceptive methods in urban areas, the lower the level of fertility. The difference in cultural values between urban and rural women must be taken into account when considering the motivations behind contraceptive use.

Contraception plays a major role in reducing fertility rates, which further can aid in a populations development. However, regional differences in cultural values influence contraceptive use as a preventative versus merely a birth spacing measure; these differences in motivation have strong geographic consistency. Contrary to contraceptive
use in developing regions of Asia or Latin America, African women prefer to practice with the intent to space births, therefore relying on reversible methods rather than long term preventative measures (Tabutin, 2004). In rural populations where large families are valued, high fertility rates remain. Contraceptive use in these populations is merely for spacing birth intervals and often times is attached to a social stigma. Conversely, the culture of urban landscapes offer shifting investment strategies and opportunity costs, and exposure to resources that promote contraceptive methods as a long-term preventative measure. Vast majorities of African women abhor sterility; the ability to reproduce often and have large families is deeply rooted in cultural tradition. Large families are respected and reflect measures of high status. High fertility may prove to be a developmental hardship economically, thus the persistence of women to continue endorsing the cultural value of large families shows that an ideological change must ensue before implementation of family planning can be effective.

Preference and utilization of contraceptive methods is directly related to measures of women’s status. Furthermore, the measure of women’s status is dependent upon the social and cultural structure in which she resides. On a local scale, major discrepancies exist between rural and urban measures of status. These measures are relevant because they influence motivating factors behind contraceptive use. On a macro scale, status of women is measured differently in stages two and three of the DTM. Stage two measures a woman’s status by childbearing and motherhood, where as stage three measures a woman’s status by literacy and employment (Tabutin & Schoumaker, 2004). Fertility decisions made by women in urban populations, or those nearing the third stage of the DTM, mirror what demands must be met to achieve a high status. Increasing female
literacy and employment lower the uncritical acceptance of childbearing and motherhood as measures of the status of women. Along with urbanization, valuation of women beyond childbearing and motherhood becomes important (Montgomery, 2000).

Characteristic of modernizing societies is a shift of definition in women’s status, which is happening slowly in urbanizing SSA populations.

As women migrate to urban centers their actual need for high numbers of children decreases, as does the necessity of this trait as a measure of status. This change in cultural value associated with urbanization explains some of the drop in fertility rates among women. Tabutin and Schoumaker (2004) found “in a vast majority of countries and societies, children are as much in demand as ever, and the large family norm is still valued, though the number of children wanted has been declining in the last fifteen years and amounts to 5.4 children for the whole of Africa” (p. 475). Although desired family size is dropping, a change in social values, represented by a change in the measure of women’s status, precedes a widespread acceptance and adoption of contraception. Declining birth rates parallel urbanization, yet the evolution of population’s values ignites this fertility transition.

VIII. POPULATION PRESSURE: URBANIZATION AND CARRYING CAPACITY

Exposure to different socio-cultural norms and costs of childbearing will lead to changes in fertility behavior, such that migrant fertility will ultimately converge with that of the natives at destination (Chattopadhyay, 2006). Although fertility levels of rural migrants might eventually match those of urban women, which are less than rural average, SSA urban fertility remains well above replacement level at three to four (Tabutin & Schoumaker, 2004). The large flux of populations from rural to urban plus the
maintenance of high fertility results in urban landscapes being above carrying capacity. Regulatory factors such as prevalence of communicable disease, lack of drinking water, and amount of arable land are issues present in urban SSA societies today as consequences of population pressure. These factors act as barriers to development and are issues that must be acknowledged when considering SSA internal development. In order for a population to grow sustainably and thrive under new circumstances it must have proper infrastructure. It is true that urban areas offer more access to education, healthcare and technology; however, in order for these tools to be effectively utilized, urban infrastructure must be able to support the influx of rural migrants.

SSA countries are experiencing advancement through the DTM extremely fast compared to the pace at which other regions advanced earlier in the world’s demographic history. To experience and respond to external factors that influence major demographic trends within a generation’s amount of time is a seemingly insurmountable challenge for a population that lacks the physical, economical and social infrastructure to support it. Key to understanding SSA struggle in reaching stage three of the DTM, where populations stabilize, is assessing its recent and expeditious entry into the model.

IX. MEASURES OF IMPROVEMENT IN STAGES 2 VS. 3 OF DTM PRE VS. POST 20\textsuperscript{TH} CENTURY

Population structures around the world that are currently stationary or contracting entered the DTM prior to the 20\textsuperscript{th} century. Regions that are currently expanding, mainly those of pre-modern societies, have entered the DTM post 20\textsuperscript{th} century. The population structures that characterize each stage of the DTM hold true over time; they are constantly shaped by changes in birth and death rates. The transition from an expanding
population structure to a stationary population structure, as seen in the transition from stage two to three, is dependent upon improvements seen in the prior that affect the later. However, the form that these improvements take is dependent upon the world system of the time. Prior to the 20th century, populations in stage two experienced improvements in water supply, sewage, hygiene, and food handling following on from growing scientific knowledge of the causes of disease (Montgomery, 1996). These improvements helped to lower death rates and potentially initiated movement to stage three. Populations who are currently in stage two of the DTM are experiencing vastly different improvements than those experienced by regions who entered the DTM prior to 20th century. This is due to changes in global technologic and ideological systems.

Improvements that help a population stabilize mirror popular trends of the time. Pre-twentieth century era was a time in which major infrastructural and developmental methods were valued and capitalized in societies. Improvements in health, hygiene, and natural resource supply were necessary for populations to advance economically and socially. With a changing world system and value placed on different arenas, post-twentieth century era values improvements such as access to technology, healthcare, and education (Montgomery, 1996). These improvements are absolutely necessary to lower fertility rates and may initiate transition towards stable population structures; however, regions that are absorbing these improvements may be faced with socio-economic change agents that are a step ahead of their time. Because SSA is experiencing movement in the DTM so rapidly, these improvements such as access to technology, healthcare and education may not have a solid foundation within which to embed their roots.

Prior to the 20th century, basic infrastructural improvements were necessary; they
provided a solid foundation for populations to build upon and thus rely upon once urbanization hit. In 1950, 13% of Africa’s population lived in cities. Now one third of Africa’s population lives in urban areas. That is a difference of 200 million migrants that have transitioned in 63 years, or one-generation worth of time (Tabutin & Schoumaker, p.504). Other regions of the world experienced internal improvements that prepared them for rural exodus. These basic infrastructural components act as a pre-cursor to support complex economic and social structures that form as a result of urbanization. In SSA, those improvements are coinciding simultaneously with, rather than prior to the influx of rural migrants, which poses a threat to urban development. Urban African regions are being presented with tools such as access to technology, education and healthcare that can potentially help to pull populations towards lower birth rates and stable population structures; however, the pre-cursor of improved health, hygiene and natural resource supply to support growing numbers has been surpassed. It is possible that SSA has the tools necessary to move forward in the DTM, yet the alarming rate at which humans have experienced technological and ideological advancement in the 20th century has posed a challenge to this region’s developmental progress.

Consequences of population pressure act as barriers to success in SSA urban regions because remedies to these issues were essentially skipped-over as the pace and modalities of global change agents ensued. Infrastructural development and natural resource utilization must act as an antecedent to combat obstacles to successful development such as sanitation, spread of communicable disease, and land use. Until then, consequences of population pressure in urban African environments will serve as major developmental hurdles. Inadequacy to safe drinking water is the major regulatory
factor affecting human populations today since waterborne disease is the principal environmental cause of mortality; in Africa two to five people lack safe water. Van Rooijen’s (2009) study found the following in SSA:

Rapid growth of urban areas has led to large volumes of water being extracted from existing sources. The influx of water, in addition to the influx of human waste, has outpaced the development of wastewater management systems, which has led to pollution of natural water bodies, unintentional use of wastewater in irrigated agriculture, irregular water supply, and environmental concerns for aquatic life due to the high concentration of pollutants flowing into water bodies (p. 57).

The fast rate at which urbanization is occurring in these regions causes overcrowding which makes for environments that are unsanitary and prone to disease outbreaks. If SSA were to have entered the DTM pre 20th century, improvements in water supply, sewage, hygiene, and agricultural food handling may have prevented several of the issues that the region is suffering from currently given the population explosion it’s economic, social, and infrastructural sectors must manage.

X. POPULATION PRESSURE: ECONOMIC GROWTH

Along with the health implications associated with urbanization and concentration of high numbers are several issues related to economic growth. The sheer magnitude of population growth is an important variable affecting urban problems because it directly affects the spatial concentration of people, industry, commerce, and energy consumption (Bartone, 1992). The rate of urbanization in several parts of SSA is occurring faster than economic development and supporting systems can adapt to provide for such populations.
The ecologies of urban versus rural populations differ in that urban populations rely on wage based economies. Compared to rural lifestyles that traditionally survive off of subsistence methods, urban environments make for competitive arenas. Acquisition of resources is now dependent upon monetary gain, which is dependent upon success in the job market. SSA cities are economically marginalized making it impossible to provide low-income housing, high-quality services, or sufficient employment (Montgomery, 2003). Rather than offering economic benefits, if an urban environment does not have the infrastructure to support its population then underemployment may result from a bloated service sector. Rural to urban migration has compounded the unemployment challenge in urban sectors. Barrios’s (2006) study found the following:

- Sub-Saharan Africa’s growth rate of urbanization has been extraordinary by international standards, averaging 140 percent between the 1960’s and 1990’s – which is a rate of 2.5 times that of the developing world. - It does not appear to have been coupled with an improvement in economic wealth (p. 358).

If this cohort of people is at a loss for sources of income, SSA youth and further entire economic structure will face many threats. A conceptual understanding of internal migration patterns in SSA is key in assessing its effect on growth and development.

- The decision to migrate is a response to several endogenous and exogenous factors. Social, economic, and political variables all play a role in interpreting migration patterns. Several theories address the levels of influence these variables play, however noting the importance of environmental variables is important when assessing internal migration in SSA. Models that have economic origins posit migration as individual cost-benefit calculations. The decision for urban migration may be based on the expectation of
perceived economic return. In SSA, however, urban areas do not prove to have stable economies or job markets. The cost of migration is much higher for many urban migrants than its return, thus economic conditions might not constitute the pull side in urban areas.

In a study performed for the Center of African Economics, Collier (2006) offers a number of explanations for the poor growth performance of a range of African countries, “Geographic factors—including climate, soils, and the failure to achieve a green revolution—and national boundaries play significant roles. Slow-growing, rapidly urbanizing countries in sub-Saharan Africa may be experiencing ‘push’ rather than ‘pull’ urbanization, resulting from agricultural stress” (p. 2). Assessing patterns of migration and allotting proper motivations is proven difficult for a population so socially and economically diverse as SSA. A systematic and thorough analysis must ensue before deciding determining factors. What is important to note, however, is the role that agriculture and environment play in this cycle. It seems that these variables initially begin as push factors motivating urban migration, however later resurface as stark concerns when attending to demands created by such overpopulated regions.

XI. POPULATION PRESSURE: ENVIRONMENT

Environmental strain is an issue that goes hand in hand with population pressure. A looming question that arises when considering our growing global population is if the world’s resource base will prove capable of supporting such high numbers. Considering this balance between people and land use is unavoidable when planning for a sustainable future, and is an issue that affects all of those alive today. A result of rising population is urban migration, and a result of urban migration is environmental strain; in SSA, urbanization amplifies existing environmental concerns. Considering how to provide for
highly concentrated regions brings about many worries regarding unequal environmental utilization between urban and rural areas. Studies have shown that land use is linked to population distribution, and those areas that experience urbanization have smaller agricultural land use than those that do not. However, urban areas create a high agricultural demand and rely on rural agriculture to provide for them. Madu’s (2012) study found that:

It is well known that, the interactions that exist between rural communities and urban centres bring about demand for agricultural products from the rural communities. Therefore, the need to satisfy the urban demand for food will propel the rural dwellers to put more land to agricultural use, if the enabling infrastructure like road is available (p. 130).

In turn, a distressing cycle ensues where rural populations struggle to sustain themselves because of growing urban demand. These regions that have high population densities, high levels of urbanization, high diversification and high economic activities, have the highest impact on agricultural land use.

XII. POPULATION PRESSURE: AGRICULTURAL METHODS

Coinciding with urbanization and the uneven settlement redistribution of populations is a change in agricultural methods. In adapting to the rise of urban agricultural demand, SSA countries have adopted different methods to meet the needs of rising populations. Compared to the dominant world food system, most SSA regions lack the basic resources and technologies necessary for intensive agriculture. The current global food market favors nations with higher standards of living and greater demand, thus majority of food production that SSA may be capable of is not utilized for its own
population’s consumption. The green revolution has catered to those regions of the world that are technologically and economically advantaged, leaving local arenas in pre-modern nations behind. With the continued growth of the human population, competition for limited land resources has steadily increased over recent years and most countries in SSA have experienced a progressive expansion of their agricultural settlement (Bourn, 2004). Successfully providing for the rapidly rising African population without reliance on intensive farming has initiated a pattern of agricultural expansion rather than intensification. The cumulative impact of human activity on the environment has had far reaching consequences; in rural areas, there is an observed expansion of farming by conversion of wetlands, forest, and savanna to cropland. Although expansion of farming systems may remedy low food supply in the short-term, these methods plus additional population growth equate to accelerated degradation of natural resources.

A fragile line exists between population pressure and agricultural resources. If agricultural methods do not anticipate population momentum, which accounts for 49% of population growth in developing countries, a lack of long-term methods will result in agricultural stagnation (Speidel, 2007). When comparing the vast mass of continent that Africa is composed of to its large populations, many assume that its population should be supported by its large quantity of land. However, large land quantity does not ensure a lands’ quality. SSA has for a long time been considered under-populated, and believed to possess huge unexploited areas. True to say, the whole of Africa is very unevenly settled. According to Tabutin and Schoumaker (2004), “National population densities range from 10 inhabitants per sq. km to close to 250 inhabitants per sq. km” (p. 466). If Africa’s population densities are calculated in the classic manner (number of inhabitants divided
by the total land area), those numbers are poor indicators of the relation between population pressure and agricultural resources. By recalculating the densities based on the surface of arable land and permanent crops, Tabutin and Schoumaker changed the perspective completely: population densities increase to 100% or more of their original densities when based upon arable land. Africa thus appears to be extremely overpopulated when measured in terms of cultivable land. It is not only a lack of sustainable agricultural methods that pose a threat to the region’s stability, but something much more indispensable: a lack of environmental resources and fertile land for populations to subsist.

XIII. POPULATION PRESSURE: ENVIRONMENT & UNSUSTAINABILITY

Responding to such crises that arise from overpopulation without adequate resources to ensure sustainable methods has left much of SSA without regard for long-term consequences. In order to alleviate stressors caused by population pressure, short-term strategies have become of dominant practice. Human biology teaches us to survive in the present, not the future; this motivates populations to gauge costs and benefits in favor of short-term gain. Many SSA populations are doing the best they can to provide and accommodate for rising populations given the circumstances; however, the lack of environmental and technological resources to support rising populations is not something that can be taken for blame by the region’s people. In a world system where peoples are stripped of their land’s natural resources and exportation of resources eliminates any chance at building stable local economies, modern world regions must initially be held accountable. The severe amount of human and resource exploitation occurring in SSA is sure to hamper any movement in the region’s progress towards internal development. The
modern global economy is far from helping to build stable economies, and further social structures within SSA. Although the interconnectedness of the world system may have harmful effects on exploited regions such as Africa’s, that does not mean that measures cannot be taken to help improve and stabilize economies, social frameworks, and population structures from within.

XIV. FAMILY PLANNING

With insight regarding what internal improvements may benefit a population’s progress and transition into modernization, it is the moral responsibility of those populations that have experienced and learned from this transition to aid in the development of another. The whole of SSA is experiencing many detrimental effects of population pressure due to high fertility rates. High fertility rates have proven to initiate many strains that hinder the regions progress towards development. Being a world region that has access to resources and knowledge that alleviate such strains, it is important for modern regions implement change within this complex system. Effective family planning programs is one of the most important tools to lowering birth rates, which further would alleviate stressors induced by population pressure. According to Speidel (2007), “The population field needs increased commitment, appropriate policies, and adequate human and financial resources. If these conditions are fulfilled, population growth will slow, reproductive health will be improved, and the environment protected” (p. 256). Helping populations to lower fertility rates as a means to reach equilibrium with the land is a measure that can be taken to aid in SSA internal development.

A drop in fertility rates is one of the most important factors observed between stages two and three of the DTM. Modern societies with low population growth that have
progressed past stage three of the DTM have stark differences in patterns of reproduction compared to regions who are currently in stage two of the DTM. According to Wood (1994), “the pattern of reproduction typical of industrialized nations stands in marked contrast to that observed in much of the rural developing world, especially where effective family planning programs have not been implemented” (p. 5). It is this lowering of birth rates that is necessary for population structures to stabilize and growth to level off. A multitude of factors exist that influence the transition of fertility patterns, however, contraception use is one of the single most important factors initiating this transition. Provision of family planning services is the most direct intervention to slow population growth (Kent, 2002). In the 21st century, we live in a world where readily available medical technology combined with increased rates of women’s education has sufficed for a social sphere where family planning programs have measureable impacts on a population. Potts (1997) study found “all societies with unconstrained access to fertility regulation, including abortion, experience a rapid decline to replacement levels of fertility, and often lower” (p. 251). Although the introduction of family planning programs to SSA has occurred at a slower pace compared to that of the modern world, these systems have been brought much attention when attending to effective methods to aid in the regions progress towards modernization.
XV. FAMILY PLANNING: SUB-SAHARAN AFRICA’S PROGRAM HISTORY AND UNMET NEEDS

Beginning in the late 1980’s SSA began to experience adoption of family planning programs, however, this region differs from other developing world regions in that there is weak policy support, late program implementation, and generally inadequate resources. These factors coupled with SSA interregional heterogeneity make for a unique history of family planning program policy. The slow growth of interest in family planning programs is partially due to a lack of government interest. Roudi inferred from (1993) reports on African family planning programs and policies that in the 1960’s, post-colonial African societies experienced minimal program implementation. A lack of recognition for services was characteristic of many early governments; by 1969, only five countries had officially committed themselves to the initiation of family planning programs. By 1986, 13 countries had established explicit population policies that encouraged slower population growth. And as of 1991, some 20 African governments had adopted population policies and established government agencies responsible for coordinating policies or programs. Currently, almost all African countries provide family planning, yet the rationale supporting policy implementation varies between countries.

Family planning is crucial as population policy. The impact of organized family planning programs on population growth is clear: such programs were responsible for at least 40% of the fertility decline in developing countries from the 1960’s through the 1980’s (Vlassoff, 2004). The presence of planning programs in SSA has gained momentum since the mid 1960’s. Coinciding with the prevalence of programs is a decline
in fertility rates. This positive correlation reassures the effectiveness of family planning programs and causes questioning as to whether supply is meeting demand.

Although family planning programs have gained popularity, many studies show that an unmet need remains in SSA. Unmet needs constitute the proportion of women who are not using contraception who want to postpone their next birth or who want to cease further childbearing (Prata, 2009). By comparing this proportion of women to those who currently use contraception, one can estimate the total demand for family planning. In a demographic health survey report produced for the U.S Agency for International Development, Westoff (2006) found that unlike other regions of the world, the unmet need for spacing births, as well as the use of contraception for this purpose is the main pattern in SSA. The important finding was that the proportion of women with unmet need has declined in most countries except in SSA where little change is apparent (p. 1). Measures of unmet need can aid in policy implementation and help to assess measures of success for current programs or a lack there of. This subject is particularly relevant for future fertility levels and rates of population growth; the satisfaction of unmet need could reduce fertility significantly.

XVI. OBSTACLES TO FAMILY PLANNING PROGRAM USE

Many barriers exist that may prevent contraceptive use in SSA, and studies show that there remains an unmet need of family planning programs and resources for women. The incorporation of family planning programs into government policy gained recognition and funding beginning in the 1960’s; however, the funnelling of energy into this arena dramatically slowed beginning in the 1990’s. A holistic assessment of Africa’s demography in the 1990’s and early 2000’s reveals major demographic changes that
ensued during this period because of the AIDS epidemic. In terms of internal spending, attention shifted away from population and towards AIDS during this period, resulting in pre-mature claims to the end of Africa’s population explosion. According to Bongaart (2012), “funding for family planning programs dropped by 30% between 1995 and 2008” (p.574). A new interest in family planning must be ignited not only within SSA, but also worldwide in order for proper funding and program implementation to improve.

Once adequate funding is in place, several obstacles must be addressed that prevent family planning programs from being successful. A substantial amount of unwanted childbearing rests on an unsatisfied demand of contraception and further upon more individual obstacles such as: lack of knowledge about birth control use, monetary costs, cultural values and opposition of family members. Support from Bongaart’s (2012) natural and controlled experiments show “given that good programs can reduce fertility by 1.0 to 1.5 births, such a program implemented now could reduce population by considerably more than a quarter billion by 2050” (p. 575). A myriad of individual factors exist on local scales that each pose as a barrier to effective contraception; these factors speak to the necessity and importance of localized family planning programs in order to stabilize SSA population structures.

The most substantial and complex obstacles to initiating acceptance of contraception are the cultural values held close by many populations in SSA. Many differing societal perspectives exist within the whole of Africa, and further, almost every region is deeply rooted in cultural values and tradition that have been in play for thousands of years. A common thread between many of these traditions is valuation of large families as symbolic to a family’s honor and livelihood. Different from western
culture, many regions in SSA are dominated by polygyny and patriarchy; these are the most distinguishing characteristics of the African family structure. The combination of this power structure plus mating system makes for a social framework in which females have less voice than males in the dictation of their reproductive outcomes. Although these characteristics are common in many family structures, knowledge and approval of contraception is gaining in popularity among African women as their desired family size is also dropping. Studies from Tabutin and Schoumaker show that 80-95% of married women know of at least one contraceptive method (p. 483). Despite high levels of knowledge, however, the cultural influence of men on wives is one of the biggest blockages to utilization of planning programs and keeps the cultural demand of frequent reproduction high.

Polygyny is linked to fertility and generally represented by an asymmetrical power system between men and women. In many patriarchal and polygynous societies gender inequality is not uncommon and women have less access to resources than men. Women in polygynous unions have been found to be less likely than those in monogamous unions to be educated and to participate in the formal economy. Furthermore, polygynous unions are more common in rural areas where educational levels are lower. Omariba (2007) found “among women, lower levels of education and non-participation in the formal economy are associated with more gender inequality and dependency on men” (p. 531). These characteristics of patriarchal societies become major indicators of what may defer women from family planning even when they desire smaller family sizes.
Contributing to these factors is the desire of women to remain fertile in polygynous relationships. Not only is frequent reproduction indicative of a male’s status, but also that of females; it shows that the woman is highly desired by those males who hold a high status. Females in polygynous societies value fertility as to enhance their reproductive success. The ability to reproduce often is desirable by males. High levels of fertility, in other terms, can be viewed as a cultural form of female intersexual selection as a means for females to make their self more attractive to the opposite sex. Many women who value traits such as these misconstrue the purpose of contraception and believe that it may make them permanently infertile. Because of this lack of education, many women do not even attempt to use any form of birth control in fear that they will damage the highly valued cultural trait of high fertility. Thus, contraceptive methods are ignored even as form to space birth intervals, and much more, prevent frequent or unwanted pregnancies. The effect of polygyny on fertility is substantial as evidenced by Cahu’s (2011) study, which found that “after controlling by age, education, religion, infant mortality, year of survey, age of marriage and country fixed effects, the incidence of polygamy happens to be positively correlated with fertility. In other words, in regions where polygamy is more frequent, the fertility rate tends to be higher” (p. 17). The factors of differential power roles combined with low education of women in polygynous societies make for an arena where little knowledge and education of contraceptive methods prevent women from being interested or properly using family planning resources if they are available. It is important to emphasize not telling women how many children they should have, but underscore that they have a right and freedom to choose how to control their own fertility when considering policy change.
Another barrier to the use of family planning programs and further, use of contraceptive methods that follows from polygynous cultures is low levels of education in women. In societies with polygamous mating systems, there remains major male dominance and dependency. Women are viewed culturally and financially as subordinate to men, resulting in a huge delay of obtaining education and empowerment, which both lead to lower fertility rates. Thus education level in a general sense is extremely important in determining family planning program use. Rather than fostering a sense of acceptance towards these seemingly foreign systems, a lack of education naturally instills fear within females. On the contrary, educated women obtain more control in their sexual and reproductive health following greater involvement in social and economic spheres. According to a model that includes only age, individual education, and country, a woman’s education strongly reduces her first-birth rate and increases in the average educational level are found to push fertility down (Kravdal, 2010). Uneducated women are not only less likely to utilize family planning programs but are not aware of program prevalence, what different forms of contraceptive methods exist, or what their usage means in relation to their physical and sexual health.

The use of family planning programs is inherently related to correct knowledge of available methods. A lack of education in this region allows for generalization of methods and a narrowed scope of perceived health outcomes. This may hamper any potential contraceptive use by those women who seek to meet desired fertility rates. Prata’s (2009) study of eight developing countries showed that “50-70 percent of women thought the use of oral contraceptive pills was a considerable health risk, even though in a low resource setting, having a baby can be up to 1,000 times as dangerous as taking oral
contraceptives” (p. 3094). Compared to other developing, low-resource countries, SSA has the lowest family planning use in the world. Different from other regions, women in SSA fail to use methods due to lack of education on how different methods work, safety and side effects, and misinformation. With something so personal as a woman’s reproductive health, programs must be sure that education encompasses not only reproductive outcomes, but also the safety and protection of women’s physical health as well.

XVII. FLAWS IN CURRENT FAMILY PLANNING PROGRAMS

Africa has the lowest use of family planning programs worldwide. In SSA as a whole, only 17% of married women are using contraceptives as compared to 50% in Northern Africa (Fredrick, 2004). Several flaws exist within current programs that could potentially result in higher program and contraceptive use if attended to. One being most important is education of women regarding the relationship between sexual health and contraception. The absence of supplying women with an array of diverse contraceptive methods, and education on proper usage hampers the success of planning programs.

Each contraceptive method has its own costs and benefits. To categorize types in a general sense one can consider methods to be long-term or short-term. Permanent, long-term methods include female sterilization, and intrauterine devices; reversible, short-term methods include the pill, male condoms, injections, and vaginal barriers. A study from the United Nations (2009) noted that modern countries have higher rates of using reversible methods. The most commonly used methods are the pill at 18% and the male condom at 16%. However, in pre-modern countries the methods with the highest prevalence were female sterilization at 22% and the IUD at 15%. Methods that are most
readily available in developing countries are the ones that deter SSA women from usage because of the fear that they will lose the ability to reproduce in the long term. It is these methods of birth control that speak against the cultural value of high fertility and fail to meet the intentions of individual women.

Providing a wide variety of contraceptive methods rather than the current limited availability of methods could draw women’s attention and potentially result in a higher usage rate. According to Jansen (2005), “the use of short-term methods has increased, while the use of long term methods has changed significantly” (p. 54). Short-term methods are more attractive to SSA women who prefer to space births rather than permanently prevent pregnancies; further, a wider variety of short term methods exist compared to the variety within long term methods. Not only do more women prefer short-term methods, but also having a greater variety of options empowers women by providing freedom of choice rather than imposing only one or two available methods. Breaking the barriers that are set by limited options of birth control could dramatically influence the way women perceive programs and could also answer to the diversity of individuals’ intentions.

Following a lack of diverse methods, family planning programs in SSA are characteristic of failing to instructionally educate women on proper usage of contraceptive methods. This lack of education is in part due to low numbers of skilled and educated workers to share information with women. Communication with health care workers is an important precursor to the adoption of family planning. Women who have no knowledge of family planning do not use contraception, and further, women who have a weak relationship with program workers are less likely to use contraception properly.
Most, if not all, forms of birth control can result in severe health consequences and failure to prevent pregnancies if administered or used incorrectly; this risk deters women from using birth control. According to Korra (2002), “women who have been visited by a family planning worker at home and women who visited a health facility and discussed family planning are twice as likely to use contraceptives as women who had not been visited by a family planning fieldworker or women who visited a health facility but did not discuss family planning” (p.15). The number of health care workers per program available to address questions and concerns for women greatly affects the success of program implementation. Not only does patient-worker contact increase the likeliness of contraception use but also ensures proper usage.

Method related reasons constitute one of the greatest barriers for women not to use contraception alongside opposition to use and lack of knowledge. Of all the method related reasons for non-use, health concerns and fear of side effects most frequently keep women from meeting desired fertility. Fears often rise from lack of education; however, in some cases these fears are validated by negative results due to improper usage of contraceptive methods. It is imperative to educate women on proper usage of contraceptive methods as to prevent any harmful health side effects that might deter women from program use in the future.

Sub-Saharan Africa family planning programs could improve on properly educating females on contraceptive methods; however, just as important, they lack the inclusion and education of males. In a cultural framework that is dominated by patriarchy, it is imperative that family planning programs target the inclusion of males and not only females. Reproductive decisions may indefinitely be influenced by male
attitudes in SSA social systems and thus including and educating males within family planning programs could influence the acceptance and usage of contraception. SSA family planning programs have not taken into account the cultural circumstances of a region where men have more say than women in reproductive decision-making. Dodoo and Landewijk’s (1996) study found the following:

In a context where: 1) men and women have different costs associated with childbearing and rearing, which results in differences in the demand for children and 2) power relations often skew decision making power in men’s favor, it is conceivable that women with an unmet need for contraception, but whose male partners want more children, may not be able to “meet” this unmet need by adopting contraception…It is useful to examine couple or joint need because this may point to a need to include men if more headway is to be made with fertility decline.

Current family planning programs worldwide mainly focus on targeting women; the inclusion of males is not a factor that solely SSA programs lack, however, inclusion of males may greatly benefit program effectiveness in such a patriarchic culture.

Contraceptive methods only favoring women display one way in which programs speak to mainly women and neglect the inclusion of males. A limited number of contraceptive methods are available in SSA, and the uncommon form of contraception is female reliance on preventative measures on the males account. An imbalance in the shared responsibility of reproductive decisions is displayed by majority of methods favoring women. Although male condoms are one of the most readily available forms of contraception, the acceptance of their use and resulting utilization remain low among
SSA men. In SSA if preventative measures are taken, the utilization of contraception is highly weighted on the female rather than the male.

In the past, most research and campaigns in SSA focused on women, reinforcing the belief that family planning is largely a woman’s business and males play a minor role. The focus of targeting women as the primary individual responsible for deciding contraceptive methods has resulted in an absence of emphasizing male condom use as an effective and desirable contraceptive method. The understanding and practice of family planning in general has thus borne women of greater responsibility in decision-making than men. Involving men, obtaining their commitment, and targeting their interest through campaigns have been a growing area of interest, as SSA programs have learned from their past.

Although there exist a wider variety of female forms of contraception, the male condom holds several characteristics that can be viewed in a positive and attractive light given SSA cultural values. The male condom is a preventative short-term form of contraception, which most SSA females seek. The use of the male condom is dependent upon a male’s decision, which speaks to the patriarchal nature of SSA power structures. The male condom is a visible external form of birth control, which avoids the mythical nature of presumed negative health effects associated with other ingestible forms of contraception. These aspects of one of the only forms of male contraception, aside from vasectomies, are far from being highlighted as attractions in SSA programs. The involvement of males in fertility decision-making is one of the most important aspects to acknowledge when seeking to implement effective family planning programs. Education and inclusion of men in outreach can have a significant effect on joint-decision making,
which in turn may emphasize the importance of shared responsibility. Inclusion of males may improve their attitudes toward family planning programs; this impact, in turn, will promote contraceptive use for men and women both.

XVIII. SOLUTIONS TO MORE EFFECTIVE FAMILY PLANNING PROGRAMS

Given the multitude of factors that stand as current barriers or flaws to effective family planning program implementation in SSA, it is imperative that future programs be localized to meet specific needs present in a given population. The intrinsic motivation to utilize family planning is propelled by a unique set of values that influence a man or woman’s decision-making process. As individuals, humans each possess their own justifications and validations for their actions that ultimately seek to satisfy personal wants and needs. This human trait is one that must be paid special attention to when approaching ways to implement effective family planning programs in SSA. The conceptualization of altering reproductive outcomes at one’s own will is a fragile and comparatively recent introduction to SSA societies. It is quite recent in our human history that men and women have possessed the ability to control fertility by artificial means and potentially meet desired birth rates. If family planning programs were localized as to be receptive of differing motivators or barriers to contraceptive use, the idea of controlling fertility to improve an individual or family’s well being may be more attractive.

Approaching program implementation in SSA with universal methods, standards, outreach, goals, or measures will not aid in lowering the regions fertility rates. Expecting this region to respond to traditional methods of family planning in a similar fashion to responses observed in other world regions is a mistake. For programs in SSA to be effective they must be localized to acknowledge, understand, and respond to the specific
wants and needs of populations given individual factors such as the following: geographic location, level of education, measures of status, age cohort, religion, cultural value, or family and social structure. The research and methodologies utilized to make family planning programs effective must consider each potential user as a unique individual and be accustomed to what may motivate a man or woman to seek services; in turn, this holistic and receptive approach may help program administration understand what makes family planning desirable to SSA populations.

One of the most important precursors to effectively implement family planning programs in SSA is raising the education level of women. Education fundamentally changes the role of intermediate variables as determinates of fertility. Studies have shown that higher levels of education are correlated with family planning and contraception use. According to Tabutin and Schoumaker, “primary education is sufficient to change norms and behavior significantly, though for the time being it is mostly access to secondary (and higher) education that induces a sharp fall in fertility” (p.478). The adoption of contraception is dependent upon a change in social values. Simultaneous with increased education levels amongst women is introduction of social values such as literacy, participation in formal economies, and obtaining rights such as voting and land ownership. As women are exposed to changing social and cultural landscapes through education, the option of controlling fertility as a means to meet personal needs may become an attractive option. As Tabutin and Schoumaker emphasize, it is this access to higher education that will instigate a widespread acceptance of family planning and further ensure program implementation is effective in stabilizing fertility rates.
The trend towards lower fertility is commonly observed in urban centers where women have greater access to educational resources, yet it provides evidence as to what factors may potentially initiate a fertility transition; this can be communicable to any given geographical area. From this observation, one may infer that educating women in a general sense, not merely education relative to family planning, could eventually result in higher family planning efficiency. Thus, female education must be a core initiative in family planning programs even if this means that resources are initially allocated to improve educational facilities, accessibility, personnel, or any facet that may act as a stepping-stone to increased female involvement in education.

In order for family planning programs to be effective given the unique aspects of SSA social and cultural spheres, programs must go beyond simply providing narrowly defined physical access to supplies and services and reduce other obstacles. One of these obstacles is the lack of equality between men and women; empowerment of women is crucial as a solution-based strategy towards effective family planning implementation. Family planning program initiatives must be theoretically forward looking and long term. Implementation of economic and social policies that empower women while also serving to the regions growing population will be most effective in serving to stabilize population structures. Creating jobs that draw women into the labor market would create a women friendly environment and increase female participation in the formal economy.

Family planning programs, as social policies, have an opportune chance to perpetuate the value of equality by adopting a strong commitment towards female empowerment. As stated by Kalipini (1995), “The achievement of the fertility transition is possible if certain policy issues are addressed with unyielding governmental
commitment. Over the long term, fertility will decline to acceptable levels as Africa continues to experience socioeconomic and cultural transformation. Of great importance in the timely achievement of the transition is the status of women in society” (p. 299). Education and empowerment of women are larger aspects of answering to SSA population crisis that must be attended to in order to initiate an honest interest by women to utilize family planning services. Once individuals seek to use contraceptive methods on their own will, then programs can begin to answer to more individual needs and be adaptive to diverse populations.

Another solution to effective family planning programs in SSA that holds just as much importance, if not more, than education and empowerment of women is inclusion of males. Obtaining the support and commitment of men to family planning is of extreme importance in a cultural framework where men hold an elevated position in society. In the African family structure that is characterized by patriarchy, men make most household decisions that affect family life. Men not only hold positions of leadership that influence the family unit, but continue to have majority of say through the national level. In order for increased male involvement in family planning to be recognized as a significant aspect of policy change, men must accept an understanding and practice of family planning. Future family planning programs must focus on what methods might encourage men’s cooperation as to influence attitudes and involvement.

With modernization comes an interest to limit family size from males, not only females. Family planning as a means of fertility regulation can be attractive to men as it gives them more control over their families’ future. Even though men are increasingly becoming more accepting of the presence of family planning, many continue to regard
family planning as the responsibility of women and lack an understanding of the shared responsibility of reproductive outcomes. Because the costs and responsibilities of reproduction lie heavily with women, family planning programs have in turn focused on answering mainly to the needs of females, resulting in male’s assumption that the responsibility for obtaining contraceptive supplies belongs to women. Because of the difference in reproductive gender roles between men and women, men assume that they have little power in contributing to fertility decisions. According to Maharaj, “the most widely known methods were the pill and injectables; only a small minority of male respondents regarded condoms as a method of family planning” (p. 252). In many parts of SSA, males remain distant from family planning programs because they are uneducated on the possibility of having a say in reproductive outcomes. Informing males of the joint-decision making process in contraceptive method choice may ignite an interest in utilizing male or female methods, rather than solely female.

Male involvement initiatives have gained much recognition in SSA, and creative approaches toward achieving greater male participation have taken place. One of the most direct routes to influencing male sexual behavior and resulting reproductive outcomes is sex education on HIV/AIDS prevention. By using interventions, communication, and education as a tool to ignite an interest, sex education campaigns seek to increase access and use of family planning services by men. Programs that have well-targeted and focused male involvement show to have an impact on male behavior related to reproductive health. Males are often ready and willing to take part in family planning if they are asked to do so, however the nature of health programs in SSA have for so long been oriented around women’s health that men are assumed to have no
specific needs for themselves. As stated by Varga (2001), “even with growing attention to African men in sexual and reproductive issues, the justification for male participation is most often linked to improved women’s health; with less focus on male involvement for the sake of improving men’s sexual and reproductive health” (p. 179). By introducing the benefits of the male condom as a means to protect men from HIV/AIDS, men recognize the personal benefit of condom use while the dual nature of fertility control is still at work.

The trend of including male audiences by tailoring program outreach and education to concerns heavily based and related to male sexual health and interests have recently begun to occur in SSA programs. Male involvement must also include the number of men who morally support and encourage family planning and who influence the policy environment to develop male-related programs. By involving males in family planning program literature and regiment, men become accustomed and exposed to ways in which there exists a shared responsibility for reproductive outcomes and decision making between men and women. If men were to be included in program production and implementation, attendance for both sexes may increase, as the male understands the potential effect that programs can have on female and male sexual health both. By approaching policy implementation with education of men and women as top priority, it is hopeful that family planning will be successful as a result of true interest and desire to control fertility by SSA families.
XIX. CONCLUSION

There has been much debate as to whether or not family planning programs and implementation thereof can be considered as determining factors in the stall of fertility decline in SSA. Published studies have offered several explanations for the stall in fertility decline but with mixed results. Factors that have been linked to SSA stall include loss of focus on family planning and changes in attitude, however, these arenas are not necessarily named as determining factors. Many say that a sufficient amount of program resources, implementation or prevalence of family planning programs would not act to significantly reduce fertility rates; however, I believe that policy implementation and program success must be viewed in a different light.

To implement effective family planning programs, a more holistic approach must be adopted that speaks to the need of each culture and societal framework in play per program location. Education of men, just as equally as women is crucial along with understanding and adapting programs to be respective of the cultural value of large families. Family planning policy must become habituated to SSA cultural norms before programs can influence women and men’s choices regarding reproductive outcomes in relation to their family’s future economic progression.

Family planning is central to population pressure; implementation strategies that are localized to meet the needs of individual populations may significantly aid in SSA population stabilization and further, the regions developmental progress as a whole. As stated by the World Health Organization:

As greater use is attained, the success of family planning programs will increasingly depend upon how well their services are tailored to the unique needs
of specific groups of users and how effectively they address equity issues in
service delivery. Moreover, ensuring that the type of family planning offered
matches a woman’s fertility intentions is key to improving family planning
services (2011).

Family planning programs have much power in influencing human behavior, as
initiatives can be solution based and goal oriented to empower men and women. The
lowering of fertility rates is a change in reproductive outcomes that initiates a change in
several other patterns of human behavior. Reproductive patterns are linked to familial
systems, to social structures, to environmental resources, and so on. A change in one
aspect of human behavior inevitably will have an effect on the direct ecology in which a
population resides. In this sense, one can imagine how a changing of birth rates might
alter future population structures in SSA and the natural environment upon which these
human systems subsist.

Amidst all speculation regarding overpopulation, environmental degradation, and
resource scarcity, it remains a dutiful question to ask whether or not humans are capable
of controlling their growth. The factors that arise as a result of overpopulation are a test
to our species extraordinary capability of adaptation. Efforts to manage our growing
world population are brought about with good intention; we are becoming more and more
aware of the troubles brought about by overpopulation and our response aims to alleviate
consequences for future generations. It is questionable as to whether or not we are
capable, due to our instinct, of controlling our growth any more than parasites are capable
of controlling their growth even if self-destruction is inevitable. Although the trajectory
of the human species may seem unpredictable in this light, the most we can do is respond
to known factors in our direct environment, and currently, attaining a symbiotic relationship between our growing numbers and supporting environment is crucial to our species as a whole.
References


Jansen, W.H., (2005) Existing Demand for Birth Spacing in Developing Countries: Perspectives From Household Survey Data. 89, 50-60.


Magadi, M., Agwanda, A., Obare, F. (2007). A Comparative Analysis of the use of the Maternal Health Services Between Teenages and Older Mothers in sub-Saharan Africa: Evidence from Demographic and Health Surveys. Social Science and Medicine, 64.


