

ASSESSING FAMILY PLANNING USE AND ITS IMPACT IN CONTROLLING POPULATION GROWTH IN AFRICA

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Abstract

The rate at which the world population is growing creates a great concern to the international community. It is this reason that the United Nations held a number of conferences to discuss the means to control world population growth. The most influential conference was the 1994 International Conference on Population and Development (ICPD) held in Cairo; the conference reached an agreement on the urgent need to control global population growth. Among others, the 20 year ICPD Program of Action declared family planning use as one of the critical approaches to be initiated by United Nations member states as a way of regulating world population. Different member states were urged to promote and make access to family planning a priority for the purpose of regulating world population growth. As such, the paper seeks to appraise the use of family planning in Africa; the paper is driven by the motive to examine the impact of family planning use on fertility patterns and population growth in the continent. It is strongly argued in the paper that, in order for Africa to successfully achieve the ICPD goal of slowed population growth, access to family planning needs to be critically looked at, as it remains the intermediate factor in the possibility of slowed population growth in the continent and the world at large. The paper concludes by recommending a total government commitment in the promotion of reproductive rights through making family planning services accessible for all in need.

Introduction

The world population has been growing extremely since the 1960's to reach close to 7 billion today; again future medium projections show that the world will pass 8 billion in 2023, 9 billion in 2041 and 10 billion after 2081 given current birth and death patterns continue to prevail.¹ It is this pattern coupled with its negative impacts that has led to many concluding that the world is overpopulated. The term over population is defined as a condition of having too many people on earth than the earth can sustain in harmony without jeopardising its ability to sustain future generations.² This overpopulation results from death rates which can no longer keep pace with birth rates leading in to surplus births.³ The continued surplus of births leads to population growth and thus remains the principal determinant of future world population. Prior to the Industrial Revolution, a constant population was sustained by death rates which were equivalent to birth rates creating a stable population. However while death rates have dramatically

increased in the recent decades due to the HIV/AIDS epidemic, natural catastrophes and curable communicable diseases in most of the least developed countries, world fertility still continues to outstrip the high number of world death rates. This condition simply means the power of fertility is the major influential factor to the world population size.

While programs and policies aimed at controlling population growth are still in place, the current annual growth rate continues to be extremely large and projections on future world population remain a great concern at the international level. According to the 2010 revision of world population prospects, the total population is likely to reach 10.1 billion by the end of the century.⁴ While all regions of the world have a significant contribution on the state of world population, the speedy pattern of population growth is mostly accounted for by developing regions such as Asia and Africa. Their greater impact on population growth stems from their fertility or birth patterns. The higher fertility rates in these developing regions contribute significantly to world surplus births which consequently results in population growth.

Due to the alarming growth pattern in world population, the United Nations has held a number of population conferences to debate about the means to reduce population growth. The major population conference (International Conference on Population and Development) was held in 1994 in Cairo. Constituents of the conference were rooted on the believe that population growth limits every nation's ability to improve living standards.⁵ As a solution to the problem, the ICPD Programme of Action endorsed a new strategy which emphasizes integral linkages between population and development and meeting the needs of individual women. A key element to this new approach is women empowerment through expanded access to education, health services, reproductive health, skills development, employment and through their full involvement in decision making processes at all levels.

Fundamental to the ICPD's commitments to women empowerment is the greater recognition of reproductive rights which are already recognized in national laws and other widely adhered to international treaties and declarations.⁶ These rights rest on the recognition of the basic right of all couples and individuals to decide freely and responsibly the number of, spacing and timing of their children and to have the information and means to do so and the right to attain the highest standard of sexual and reproductive health.⁷ The ICPD programme of Action calls upon nations to strive in making reproductive health accessible through primary health care system to all individuals of appropriate ages in no later than 2015.⁸

Ensuring universal access to reproductive health services is also one of the Millennium Development Goals (MDG). Goal 5 of the MDG aims to reduce maternal mortality and ensure access to reproductive health services for all women by 2015. One of the goal targets includes increasing contraceptive

prevalence and lowering unmet need for family planning.⁹ The accessibility of reproductive health services particularly family planning as a means of population control enables all couples to attain the exact number of children they desire. Empirical findings have shown that couples are having more children than they want due to the unavailability of family planning services to enable them to prevent unwanted pregnancies. In this regard Africa is a good point of reference. In 2009 it was estimated that 35 million women in Africa had an unmet need for family planning.¹⁰ Currently, approximately 24.8 percent of African women have unmet needs for family planning; this simply means 24.8 million women of reproductive ages who prefer to avoid or postpone childbearing are not using any method of contraception.¹¹

The African situation simply reflects challenges within family planning programs; this is further shown by the high rates of unsafe abortions practiced by young and adult women each year. Access to family planning becomes even more critical due to the increased sexual relations among adolescents in the contemporary world.¹² Given the situation, the paper aims to appraise family planning use in the African continent. Moreover the paper is rooted on the motive to assess the impact of family planning use in controlling population growth in Africa. Due to current and unfavourable future projections on population size, the paper strongly argues that in order for African governments to succeed in slowing population growth, access to family planning should remain a priority of all African countries. The paper asserts that many young and adult women in developing countries do have strong desires for child spacing, small families and preventing unwanted births, but they are unable to successfully meet their needs due to problems in accessing family planning services. In many contexts the majority of couples are left with no choice but to continue having unwanted pregnancies.¹³ While acknowledging that access is not the only remedy, making family planning accessible to all will, as it has in developed countries, contribute significantly in slowing population growth of Africa through reduced fertility.

Theoretical framework

The urge to control population growth is rooted in the belief that population growth has a negative impact on sustainable development. Robert Malthus who was a classic theorist of population growth asserted that the impact population growth has on sustainable development can be traced to imbalances between population growth and the pace of development. The Malthusian theory argues that the power of population to reproduce itself is greater than the power of earth to produce subsistence for man.¹⁴ The theory asserts that this is due to the fact that population increases in a geometric ratio while subsistence only increases in an arithmetic ratio.¹⁵ This geometric increase in population growth is predicted to lead to decreased food availability despite phenomenal increase in production, reduced standards of living and

increased pressure on resources like land, water, natural forests. The increased pressure on resources like land, water and natural forests leads to many effects like:

- Fragmentation of land below the economic level.
- Acute shortage of drinking and irrigation water.
- Denudation of forest to increase agricultural land.
- Pollution of water, land and food materials.
- Climate change.¹⁶

The Malthusian theory argues that it is not necessary to implement strategies to control population growth and its consequences as nature will eventually regulate the human population through hunger, misery and unintended deaths. However the Neo-Malthusian theory which is based on the ideas Robert Malthus extended the Malthusian doctrine by proposing that overpopulation should not be left to nature for its regulation, but the population should be controlled by introducing and implementing policies and strategies that shall act to regulate population growth and consequently eliminate the negative effects and the unintended consequences of population growth. The United Nations through the ICPD program of action is thus acting on the ideas of these two paradigms. The international community is convinced that the Malthusian predictions are being witnessed in many developing countries. In this regard, Africa is a good point of reference; poverty and food insecurity is high in urban slums and arid and semi-arid lands. Many households in these land areas are chronically poor and there are persistently high malnutrition rates among infants.¹⁷

The state of the world population

After growing very slowly for most of human history, the world's population more than doubled in the last half century to reach 6 billion in late 1999. In the year 2010, the Population Reference Bureau reported the world to be standing at 6.8 billion people; with majority of world population found in the less developed countries of Africa and Asia. This remarkable development in population is a product of increasing fertility and the unprecedented decline in death rates among low developing countries. The decline in death rates is accounted for by a number of factors; this includes the spread of public health measures, health care and disease prevention, longer life expectancy and youthful populations in the majority of low developing countries.^{18,19} It is also projected that a huge increase in future population will

occur in the less developed regions. Africa as one of the less developed regions has the highest increase projected for 2050.²⁰ As the continent still continues to experience strong imbalances between birth rates and death rates, high rates of surplus births are expected for the next coming decades.

| Table 1. Population distribution by region | | | | | | |
|--|-------------------------------|-----------------------------|-----------------------------|------------------------------|----------------------|--|
| Region/Country | Population Mid-2009(millions) | Births per 1.000 population | Deaths per 1.000 population | Rate of Natural Increase (%) | Total Fertility Rate | % of married women 15-49 using Contraception |
| World | 6.892 | 20 | 8 | 1.2 | 2.5 | 62 |
| More Developed | 1.237 | 11 | 10 | 0.2 | 1.7 | 71 |
| Less developed | 5.656 | 22 | 8 | 1.4 | 2.7 | 60 |
| Less developed (Excl. China) | 4.318 | 25 | 8 | 1.7 | 3.1 | 52 |
| Least Developed | 857 | 35 | 12 | 2.3 | 4.5 | 29 |
| Africa | 1030 | 37 | 13 | 2.4 | 4.7 | 29 |
| America | 929 | 17 | 7 | 1.0 | 2.2 | 75 |
| Asia | 4.157 | 19 | 7 | 1.2 | 2.2 | 66 |
| Europe | 739 | 11 | 11 | 0.0 | 1.6 | 70 |
| Oceania | 37 | 18 | 7 | 1.1 | 2.5 | 82 |
| Niger | 15.9 | 52 | 17 | 3.5 | 7.4 | 11 |
| Libya | 6.5 | 23 | 4 | 1.9 | 2.7 | 42 |
| Kenya | 40.0 | 37 | 10 | 2.7 | 4.6 | 46 |
| DRC | 67.8 | 47 | 17 | 2.9 | 6.4 | 21 |
| South Africa | 49.9 | 21 | 12 | 0.9 | 2.4 | 60 |

Source: Population Reference Bureau. World Population Data Sheet. 2010.

Population sizes as well as growth patterns vary by regions and even among countries within the same region. This, amongst others, is due to a variety of factors such as religious, socio-economic, and cultural structures in existence which directly or indirectly affect people's reproductive lives. Of the five world regions, Africa is the leading country in terms of natural increase (difference between birth and death rates). After Africa, the region with the highest rate of natural increase is Asia growing at 1.2 per cent per year. Asia is followed by Oceania and America ranks fourth in the world rankings with Europe ranking last in annual rate of natural increase and population.²¹

A contributing factor to the contemporary African population size is the youthful population structure of the region. The size of the African population in the youthful ages is responsible for the high fertility outcomes in the region. The more the people are in the reproductive ages, coupled by non-contraceptive use, the higher the probability of increased birth rates. In 2009, the population reference bureau has estimated that 43 percent of sub-Saharan African population is below the age of 15;²² a phenomenon which shall influence Africa's population growth in the next coming decades. As 43 percent of the youthful age groups enter the reproductive age, in-access to family planning coupled by non-use of family planning methods by the sexually active masses of the population shall lead to further population growth in Africa and the world at large.

The pattern of population growth is not only influenced by the already mentioned factors, there are other influential factors with greater impact on a growth pattern of a particular region. These include socio-demographic characteristics of the population, mortality patterns, morbidity, migration patterns, fertility, the proportion of women in a union, contraceptive use, breast feeding practices, conflict, regional/national population policies, and their implementation strategies and lastly social issues. Of the above mentioned factors, mortality, migration and fertility are the core influential components of a population size of every country.

Types of family planning methods

Family planning use is the "intentional prevention of conception through the use of various devices, sexual practices, chemicals, drugs, or surgical procedures".²³ The concept of family planning is used interchangeably with contraceptives. There are many different types of family planning methods which

have so far been developed for the purpose of preventing conception. The current methods in existence have been categorized in to five groups. Firstly, we have “hormonal methods” which are currently being regarded as the most common methods of birth control. Hormonal methods which appear in the form of Birth control pill, Depo-provera, Lunelle, Vaginal ring all contain manufactured forms of the hormones Estrogen and or Progesterone. All the different types containing the mentioned hormones work in three ways; firstly by preventing woman’s ovaries from releasing an egg each month; secondly by causing the cervical mucus to thicken making it hard for sperm to reach and penetrate the egg and lastly by thinning the lining of the uterus which reduces the likelihood that a fertilized egg will implant in the uterus wall. ²⁴ The second category of birth control methods is “barrier methods”. These family planning methods work by physically preventing sperm from entering the female reproductive system. These devices include Male condom, Female condom, Spermicides, Diaphragm, Cervical cap and Contraceptive sponge. The third category of birth control method is “withdrawal” and “sterilization”. Withdrawal involves the removal of the erect penis from the vagina prior to ejaculation; on the other hand sterilization involves the surgical closing, tying or blocking of the fallopian tube so eggs cannot travel through the uterus. There also exists male sterilization which is the surgical closing of tubes that carry sperm from the testicles to the penis.²⁵ The forth category of birth control methods is abstinence. As a means of conception, abstinence is the voluntary refraining from sexual intercourse. This method is regarded as the only family planning method that is 100% effective in the prevention of both pregnancy and sexually transmitted diseases. The last category of birth control methods is the fertility awareness method which is often called “natural family planning”. Apart from abstinence and withdrawal method, this is the third method that does not rely on devices or medication to prevent pregnancy. The natural family planning method uses the natural functions of the female body and menstrual cycle to calculate ovulation. It requires abstinence from sexual intercourse during the ovulation period.²⁶ Demographers regard withdrawal and abstinence as traditional methods while the other methods are regarded as modern methods of contraception.

The relationship between family planning use and fertility in Africa

Contraceptive prevalence rate is interpreted as the percentage of currently married or “in union” women of reproductive ages (15-49 years) who are using any form of family planning. When estimating

contraceptive prevalence an assumption is made that women between the ages of 15-49 are sexually active and therefore are also exposed to the risk of pregnancy.

Contraceptive use varies substantially among world nations.²⁷ The 2010 World Population Data Sheet shows that contraceptive prevalence rate vary widely from an average of 75% in America to 29% in Africa.²⁸ A number of factors are responsible for the low contraceptive prevalence rates among sexually active women in Africa. Reasons for non-contraceptive use range from difficulties in accessing family planning services, fertility-related reasons, opposition to use, lack of knowledge and method (health) related reasons.²⁹ Generally the success of family planning programs in Africa is affected by poverty, inadequate knowledge about contraception, limited ability to make independent decisions about using family planning or about when to have children, strong compliance to cultural and religious norms and lack of experience in obtaining family planning services.³⁰ In addition poor coordination of reproductive health programs is one additional factor contributing to low contraceptive use in Africa.

Generally in all world regions, contraceptive use corresponds with fertility patterns.^{31, 32} Fertility is the ratio of live births in an area to the population of that area. In regions where contraceptive use is widespread, fertility is low but in regions where contraceptive use is uncommon such as Africa, fertility is high.^{33,34} This is also supported by data shown in Table. 1. It can be seen that the increase in contraceptive prevalence means a decrease in fertility and consequently results in slowed natural increase. Contraceptive prevalence rate is also reflected in the Total Fertility Rate which is “the average number of children that would be born alive to a woman during her life time if she were to bear children at each age in accordance with prevailing age-specific fertility rates.³⁵ Fertility rates have fallen in some of the world regions; the global average number of children per women fell from 5.0 around the 1950s to 2.5 in 2009. But for some regions, the rate remains quite high. Africa’s birth rates remain high compared to other regions. The 2009 population data sheet indicates that in Africa an average of 36 babies are born per 1000 population while in other regions only 11 babies are born. Furthermore 2010 statistics show the African total fertility rate to be standing at 4.7. These rates reflect contraceptive prevalence of these specific regions. In Africa the pattern of fertility is linked to a number of factors. Among others, the state of fertility in Africa is purely a result of low prevalence rate of contraceptive use.

The significance of access to family planning in controlling population growth in Africa

The vast majority of the African countries and national governments encourage citizens to make use of available family planning methods to promote small family sizes and prevent unwanted pregnancies. All these come as an overall initiative to slow population growth and avoid some of the consequences of population growth.

A combination of good access to family planning services and increased family planning use has led to a decline in fertility rates in Southern India and Sri Lanka.³⁶ Access to good quality, voluntary family planning services and increasingly higher levels of family planning awareness are credited for supporting declines in family sizes. For fertility to fall to low levels, many factors are key, this include a significant increase in the use of family planning. Sufficient evidence exist to show that the high fertility in the African continent is not because women in Africa want to have more children than women in other regions; the skewed rates I argue reflect the prevalence of family planning use as well as challenges in accessing family planning services in this particular region.³⁷

Clearly most people in developed countries want and are having smaller families than in the past. This development has been greatly helped by the wider availability of high quality, safe and affordable family planning services in some regions. However the opposite is observed in some other regions such as Africa; many people are still having more children than they want.³⁸ The 2008 estimates indicated that sub-Saharan Africa had about 14 million unintended pregnancies, with almost half occurring among women aged 15-25 years. Today, there are 24.8 percent of women who want to use family planning but lack access leaving them with no other options but to continue having unwanted pregnancies.³⁹ According to the Millennium Development Goals report, one in four women who wish to delay or stop child bearing is not using any family planning method.⁴⁰ Achieving the desired population growth rates will require expanded access to family planning especially in the poorest countries. People regardless of their age must have access to a wide range of family planning methods at all stages of their reproductive lives. The impact access to family planning has on the rate of fertility in sub-Saharan Africa is of vital importance; it therefore requires urgent attention from national governments. The African continent should bear in mind that the more women use family planning, the less fertility rate, natural increase and growth rate in Africa.

Conclusion

Current statistics do confirm that the African population size is growing remarkably. The paper has shown that the high increase in the African population is attributable to its high fertility patterns. The high fertility pattern in Africa is among others, a result of the ineffectiveness of family planning programs. The uneasy access and the unavailability of family planning services for the masses remain the main chronic conditions which shall continue perpetuating rapid population growth. Millions of couples do have strong desires to limit birth and have small family sizes but their needs are handicapped by the uneasy access and the unavailability of family planning services. This condition has left and still continues to leave couples with no alternatives but to continue having unwanted/unplanned pregnancies. A stable population can be maintained in Africa given populations have a wide range of family planning services to help them attain

the exact number of children they want. The overall low rate of contraceptive prevalence and high unmet need for family planning suggests the need for African national governments and population policy makers to rethink access to contraceptives. Until full access to reproductive health falls part of national government priorities, Africa and the world will continue to suffer disproportionately from population growth.

Recommendations

In order for Africa to slow her population growth rate and avoid all the unintended consequences of population growth, the following recommendations should be considered:

- National Health Ministries should aim at rendering family planning services to all population groups regardless of location. Thus citizens of reproductive ages should have full access to different kinds of family planning methods to enable them to reach the exact number of children they want. To realise this objective a number of approaches can be adopted. Given the fact that a clinic based service delivery approach has the advantage over other service delivery strategies of being able to provide methods that are more medically complex, all national governments and their ministries should strive to expand their services to reach populations in rural and marginalised communities.
- As it is widely argued that community-based distribution of contraception has the potential to increase family planning access and convenience, particularly in countries with large rural populations, low contraceptive prevalence and high unmet need for family planning,⁴¹ national government should therefore introduce this system of contraceptive distribution to supplement the popular clinic based approach. This approach shall act to improve access through addressing government service delivery weaknesses as well as weaknesses of other service delivery approaches.
- The significance of contraceptives in today's world does not only lie in its power to reduce fertility rates but it also addresses other population problems, national government must provide sufficient support to family planning programs so as to fully realize other health related goals. These include: reducing the number of maternal deaths and other health complications resulting from unsafe abortions by women of reproductive ages.
- In order to improve access and use of family planning methods, national health sectors need to find new and innovative ways of promoting use and improving the supply of these services to all

in need. Initiatives to ensure affordability either through subsidizing some family planning methods at the private sector shall also act to increase prevalence rate in Africa.

- From an international perspective, universal access to family planning is a critical component for development; the benefits of having contraceptives available to all who want it are widely recognized, therefore the international community as well as international donors should consider directing more of their funding to family planning programs in Africa.
- Developed countries and some African countries such as South Africa are using social media to address reproductive, health and HIV/AIDS issues; therefore all countries of Africa should adopt the same approach in making the public knowledgeable about the available family planning methods. This channel should also be used to promote condoms and long term contraceptive methods.
- Future research should focus more on challenges in implementing population policies in African countries; this will therefore help in assessing the appropriateness of current population policies and programmes in responding to world population growth.

REFERENCES

Department of Economic and Social Affairs, Population Division. 2011. "Global population to pass 10 billion by 2100, UN projections indicate" United Nations. <http://www.un.org/apps/news/story.asp?NewsID=38253> Accessed 26 May 2011.

Steck T.L. Human Population. *The encyclopedia of Earth*
http://www.eoearth.org/article/Human_population_explosion Accessed 20 September 2010

Dorn H.F. 1962. World Population Growth: An international Dilemma. *Science*, New Series 135. (3500) Page 283-290

Department of Economic and Social Affairs, Population Division. 2011.

Sai F. 2004. ICPD *Program of Action 10 years on- A view of the Africa Region*. Presentation made to African Ministers meeting in Dakar, Senegal July

Health and Development Information Team, *Realizing Rights Universal Access to sexual and Reproductive health services*. www.eldis.org/health/Universal/index.htm Accessed 24 August 2010.

International Conference on Population and Development. *Program of Action*

Rosalind, P.P 1995 From Population Control to Reproductive rights *Reproductive Health Matters*. Vol 3(6) Page 152-161

Barroso C. Making contraceptives accessible to save women's lives. International Planned Parenthood Federation.

United States Agency for International Development. 2009. The status of Family Planning in sub-Saharan Africa Briefing Paper

World Health Organisation. 2011. World Health Statistics

Out A. Ejembi C.L. Sexual Behaviour, Contraceptive Practice and Reproductive Health Outcomes among Nigerian University Students. *Journal of Community Medicine and Primary Health Care*. Volume 16. No 2. page 1

Aitken R.J. Baker M.A Doncel G. F Matzuk M.M Mauck C.K ; Harper " As the world grows: Contraception in the 21st century. *The Journal of Clinical Investigation*. Vol 118 No 4. April . Page 1.

Malthus T.R. First Essay on Population 1798 Royal Economic Society

Ibid

Hinrichsen D; Robey B. 2000" Population and the Environment: The global challenge. School of public health. John Hopkins University

Nwachukwu I.; Obasi O.O. Use of Modern Birth Control Methods among Rural Communities in Imo State, Nigeria. *African Journal of Reproductive Rights*. 2008. Vol 12 No 1.

Bremner J; Lee M; Mather; Zuehlke “World population highlights: Key findings from PRB’s 2009. World Population Data Sheet” 64 (3) Population Bulletin. *Population Reference Bureau*. September 2009 Page 4

Demographic Transition: A historical Sociological Perspective 2000. University of Michigan. http://www.globalchange.umich.edu/globalchange2/current/lectures/pop_socio/pop_socio.html Accessed 15 September 2010 (22)

Bremner et al 2009. Page 2

Population Bulletin, 2010

Bremner J; Lee M; Mather; Zuehlke. 2009. “World Population Highlights: Key Findings from PRB’s 2009 World Population Data Sheet” Vol 64. No: 3 Population Bulletin. *Population Reference Bureau*. September Page 3-4

Stacey D. 2009. Contraception <http://contraception.about.com/od/contraceptionoverview/g/glossary.htm> Accessed 09 November 2010

Overview: Types of family planning . American pregnancy association. <http://www.americanpregnancy.org/preventingpregnancy/overviewtypesbirthcontrol.html>;

Schwartz J.I; Gabelnick H.L. 2002. Current Contraceptives Research. *Perspectives on Sexual and Reproductive Health* Volume 34. No. 6

Types of contraception <http://www.knowmycycle.com/birth-control-method.aspx>. Accessed 28 July 2010

Population Reports. New Survey Findings. The Reproductive Revolution Continues. INFO Project. Center for Communication Programs, The Johns Hopkins Bloomberg School of Public Health. Volume XXXI Number 2. Spring 2003/2003

Population data sheet. 2010

Williamson L.M, Parkes A. Wight D. Petticre M; Hart G. Limits to modern contraceptive use among young women in developing countries: a systematic review of qualitative research. 2009. *Reproductive Health*. Vol 6. No 3. Page 9

Ringhein, K; Gribble J. Improving the Reproductive Health of Sub-Saharan Africa’s Youth: A route to achieve the millennium development goals. *Population Reference Bureau*

Dodoo, F. N 2001 Fertility preferences and contraceptive use: A profitable nexus for understanding the prospects for fertility decline in Africa” workshop on prospects for fertility decline in high fertility countries. population division. Department of economic and social affairs. United Nations secretariat. 9-11 July 2001.

Saxena P.C; Jurdi R. Impact of Proximate Determinants on the recent fertility in Yemen

Gribble J and Joan Haffey, Reproductive health in sub-Saharan Africa. *Population Reference Bureau*. 2008

Population Reports. 2003. The Reproductive Revolution Continues. Series M. Number 17 Page 8;
Gribble J and Haffey, J. 2008. Reproductive health in sub-Saharan Africa. *Population Reference Bureau*.

Ijaiya G.T'; Raheem U. A. Olatinwo A. O; Ijaiya M. A and Ijaiya M.A. Estimating the impact of birth control on fertility rate in Sub-Saharan Africa. *African Journal of Reproductive Health* Vol 13No 4 December 2009

Engelman R. 2008. Fertility fall, Population Rises, Future uncertain. World Watch Institute

Bremmer et al, 2009 Page9

Hubacher, D. Mavranzouli I, McGinn E. Unintended pregnancy in sub-Saharan Africa: Magnitude of the problem and potential role of contraceptive implants to alleviate it. *Contraception* 2008 Vol 78 page 73-78

Gribble J. ; Haffey James 2009 “ Reproductive Health in sub-Saharan Africa. *Population Reference Bureau*

2010 Millennium Development Goals Report in World Health Organisation “Universal access to reproductive health; Accelerated actions to enhance progress on millennium development goal 5 through advancing target 5B.

Family Health Research. 2007 Improving access to family planning *Family Health International* Vol 1 No 2

- ¹ Department of Economic and Social Affairs, Population Division. 2011. "Global population to pass 10 billion by 2100, UN projections indicate" United Nations. <http://www.un.org/apps/news/story.asp?NewsID=38253> Accessed 26 May 2011.
- ² Steck T.L. Human Population. *The encyclopedia of Earth* http://www.eoearth.org/article/Human_population_explosion Accessed 20 September 2010
- ³ Dorn H.F. 1962. World Population Growth: An international Dilemma. *Science*, New Series 135. (3500) Page 283-290
- ⁴ Department of Economic and Social Affairs, Population Division. 2011.
- ⁵ Sai F. 2004. ICPD *Program of Action 10 years on- A view of the Africa Region*. Presentation made to African Ministers meeting in Dakar, Senegal July
- ⁶ Health and Development Information Team, *Realizing Rights Universal Access to sexual and Reproductive health services*. www.eldis.org/health/Universal/index.htm Accessed 24 August 2010.
- ⁷ International Conference on Population and Development. *Program of Action*
- ⁸ Rosalind, P.P 1995 From Population Control to Reproductive rights *Reproductive Health Matters*. Vol 3(6) Page 152-161
- ⁹ Barroso C. Making contraceptives accessible to save women's lives. International Planned Parenthood Federation.
- ¹⁰ United States Agency for International Development. 2009. The status of Family Planning in sub-Saharan Africa Briefing Paper
- ¹¹ World Health Organisation. 2011. World Health Statistics
- ¹² Out A. Ejembi C.L. Sexual Behaviour, Contraceptive Practice and Reproductive Health Outcomes among Nigerian University Students. *Journal of Community Medicine and Primary Health Care*. Volume 16. No 2. page 1
- ¹³ Aitken R.J. Baker M.A Doncel G. F Matzuk M.M Mauck C.K ; Harper "As the world grows: Contraception in the 21st century. *The Journal of Clinical Investigation*. Vol 118 No 4. April . Page 1.
- ¹⁴ Malthus T.R. First Essay on Population 1798 Royal Economic Society
- ¹⁵ Ibid
- ¹⁶ Hinrichsen D; Robey B. 2000" Population and the Environment: The global challenge. School of public health. John Hopkins University
- ¹⁷ Nwachukwu I.; Obasi O.O. Use of Modern Birth Control Methods among Rural Communities in Imo State, Nigeria. *African Journal of Reproductive Rights*. 2008. Vol 12 No 1.
- ¹⁸ Bremner J; Lee M; Mather; Zuehlke "World population highlights: Key findings from PRB's 2009. World Population Data Sheet" 64 (3) Population Bulletin. *Population Reference Bureau*. September 2009 Page 4

- ¹⁹ Demographic Transition: A historical Sociological Perspective 2000. University of Michigan.
http://www.globalchange.umich.edu/globalchange2/current/lectures/pop_socio/pop_socio.html Accessed 15 September 2010 (22)
- ²⁰ Bremner et al 2009. Page 2
- ²¹ Population Bulletin, 2010
- ²² Bremner J; Lee M; Mather; Zuehlke. 2009. "World Population Highlights: Key Findings from PRB's 2009 World Population Data Sheet" Vol 64. No: 3 Population Bulletin. *Population Reference Bureau*. September Page 3-4
- ²³ Stacey D. 2009. Contraception <http://contraception.about.com/od/contraceptionoverview/g/glossary.htm>
Accessed 09 November 2010
- ²⁴ □ Overview: Types of family planning . American pregnancy association.
<http://www.americanpregnancy.org/preventingpregnancy/overviewtypesbirthcontrol.html>;
- ²⁵ Schwartz J.I; Gabelnick H.L. 2002. Current Contraceptives Research. *Perspectives on Sexual and Reproductive Health* Volume 34. No. 6
- ²⁶ Types of contraception <http://www.knowmycycle.com/birth-control-method.aspx>. Accessed 28 July 2010
- ²⁷ Population Reports. New Survey Findings. The Reproductive Revolution Continues. INFO Project. Center for Communication Programs, The Johns Hopkins Bloomberg School of Public Health. Volume XXXI Number 2. Spring 2003/2003
- ²⁸ Population data sheet. 2010
- ²⁹ Williamson L.M, Parkes A. Wight D. Petticre M; Hart G. Limits to modern contraceptive use among young women in developing countries: a systematic review of qualitative research. 2009. *Reproductive Health*. Vol 6. No 3. Page 9
- ³⁰ Ringhein, K; Gribble J. Improving the Reproductive Health of Sub-Saharan Africa's Youth: A route to achieve the millennium development goals. *Population Reference Bureau*
- ³¹ Dodoo, F. N 2001 Fertility preferences and contraceptive use: A profitable nexus for understanding the prospects for fertility decline in Africa" workshop on prospects for fertility decline in high fertility countries. population division. Department of economic and social affairs. United Nations secretariat. 9-11 July 2001.
- ³² Saxena P.C; Jurdi R. Impact of Proximate Determinants on the recent fertility in Yemen
- ³³ Gribble J and Joan Haffey, Reproductive health in sub-Saharan Africa. *Population Reference Bureau*. 2008
- ³⁴ Population Reports. 2003. The Reproductive Revolution Continues. Series M. Number 17 Page 8; Gribble J and Haffey, J. 2008. Reproductive health in sub-Saharan Africa. *Population Reference Bureau*.
- ³⁵ Ijaiya G.T?; Raheem U. A. Olatinwo A. O; Ijaiya M. A and Ijaiya M.A. Estimating the impact of birth control on fertility rate in Sub-Saharan Africa. *African Journal of Reproductive Health* Vol 13 No 4 December 2009
- ³⁶ Engelman R. 2008. Fertility fall, Population Rises, Future uncertain. World Watch Institute

³⁷ Bremmer et al, 2009 Page9

³⁸ Hubacher, D. Mavranzouli I, McGinn E. Unintended pregnancy in sub-Saharan Africa: Magnitude of the problem and potential role of contraceptive implants to alleviate it. *Contraception* 2008 Vol 78 page 73-78

³⁹ Gribble J. ; Haffey James 2009 “ Reproductive Health in sub-Saharan Africa. *Population Reference Bureau*

⁴⁰ 2010 Millennium Development Goals Report in World Health Organisation “Universal access to reproductive health; Accelerated actions to enhance progress on millennium development goal 5 through advancing target 5B.

⁴¹ Family Health Research. 2007 Improving access to family planning *Family Health International* Vol 1 No 2