## DEMOGRAPHIC DYNAMICS AND SUSTAINABILITY IN AFRICA

# **Kwame Ameyaw Domfeh**

Department of Public Administration, University of Ghana Business School Legon, Ghana

**Keywords:** sustainability, demographic dynamics, population, urbanisation, migration, HIV/AIDS, total fertility rate, Africa

#### **Contents**

- 1. Introduction
- 2. Demography
- 3. Population growth and structure
- 3.1. Global population trends
- 3.2. Population growth in Africa
- 4. Factors influencing population dynamics
- 4.1. Population policies
- 4.2. Fertility and birth rates
- 4.3. Mortality
- 4.4. Migration
- 4.5. Urbanisation
- 4.6. Health, hygiene and sanitation
- 4.7. Ageing population
- 4.8. Gender factor
- 5. Key problems and strategies
- 6. Conclusions

Glossary

**Bibliography** 

Biographical Sketch

# **Summary**

This paper explains the demographic dynamics in Africa and how they are related to sustainability. Sustainability involves a balance among economic and social development as well as environmental protection that is governed by an ethical dimension of justice and equity. Demography also includes statistics about people and encompasses births, death, diseases, migration and urbanization.

The current population growth of Africa combined with the unsustainable consumption patterns places severe stress on the life-support capacities of the continent. Economic and infrastructure development lags behind urban growth, thus resulting in chronic unemployment and lack of health, education, and other social amenities, which have adversely affected the standard of living and development, especially in Sub-Saharan Africa.

The ultimate attainment of the objectives underlying the principles of sustainability lies in the absence of debilitating diseases such as HIV/AIDS, malaria, water-borne diseases

and others. Special attention needs to be paid to inequalities in health, nutrition and education and early marriage and childbearing. And, finally, sufficient funding should be made available for policy-oriented research that focuses on critical environmental, social and economic problems, especially in countries where demographic pressure upon the natural resource base is increasing.

#### 1. Introduction

Sustainability is a long-term goal over which there is broad and growing consensus. It entails the maintenance of a sustainable scale of the economy relative to its ecological life-support system and a fair distribution of resources and opportunities between present and future generations, as well as between agents in the current generation. It is about creating sustainable economies that equitably meet human needs without extracting resource inputs or expelling wastes in excess of the environment's regenerative capacity, and sustainable human institutions that assure both security and opportunity for social, intellectual, and spiritual growth. This paper attempts to examine whether Africa's demographic dynamics enhance or inhibit sustainability.

## 2. Demography

Demography encompasses vital statistics about people, such as births, deaths, diseases, migration, and urbanisation that help explain the condition of a community, country or region. The international community has over the years initiated and implemented programmes that aim at shaping demographic dynamics in a way that will help promote sustainable development. For instance, the International Conference on Population and Development (ICPD) held in Cairo in 1994 served as a milestone in the history of population and development. ICPD gave a new, comprehensive approach to sexual and reproductive health and rights. The global community, for the first time ever, declared that people should choose their family size, in order to slow the rapid population growth that undermines poverty reduction efforts in the world's poorest countries.

The UN Conference on Human Settlements (Habitat II) held in Istanbul in 1996 addressed issues relating to the pressing problem of the rapid urbanisation of the world. Habitat II adopted a plan that provides an effective tool for creating sustainable human settlements for the next generation in the specific context of urbanisation. The Conference agreed to address many important issues concerning human settlements including unsustainable consumption and production patterns, unsustainable population changes, homelessness and unemployment. It also addressed the problems of the lack of basic infrastructure and services, growing insecurity and violence, and increased vulnerability to disasters. The 1992 UN Conference on Environment and Development in Rio and the World Summit on Sustainable Development in Johannesburg in 2002 further sensitised the world about the need to promote sustainable development. Both events reiterated that action for sustainable development requires a balance among economic development or material welfare, social development, and environmental protection, which should be governed by an ethical dimension of justice, now and for generations to come. Each society, nation or community must find its own unique balance among these dimensions, by applying the principles of a global vision of sustainability in ways and means appropriate to its own circumstances.

### 3. Population growth and structure

### 3.1. Global population trends

World population growth accelerated after World War II, when the population of less developed countries began to increase dramatically. A billion people were added to the world's population between 1960 and 1975; another billion were added between 1975 and 1987. Human population entered the twentieth century with 1.6 billion people and left the century with 6.1 billion.

Population growth and distribution differ significantly among the major regions. Asia, Africa and Latin America and the Caribbean all increased their share of the world population between 1970 and 1998. Asia's share of world population rose from 58% to 61%, Africa from 10 to 13%, the Caribbean and Latin America from 8 to 9%. During the same period, the share of Northern America declined from 6% in 1950 to 5% in 1998, and Europe from 18% to 12% (Bureau of Census, 2000).

A growth rate of 1.4%, when applied to the world's population of 6.1 billion yields an annual increase of about 85 million people. Because of the large and increasing population size, the number of people added to the global population will remain high for several decades, even as growth rates continue to decline. Table 1 shows the growth of world population since 1900 and includes projections through to 2150. There has been more population growth since 1950 than during all the previous years of human existence.

Major Area	1900	1950	1999	2050	2150
World	1650	2521	5978	8909	9746
Africa	133	221	767	1766	2308
Asia	947	1402	3634	5268	5561
Europe	408	547	729	628	517
Latin America & Caribbean	74	167	511	809	912
North America	82	172	307	392	398
Oceania	6	13	30	46	51

Source: United Nations, 1992

Table 1. Population of the world and its major areas, 1900-2150

The unprecedented surge in population, combined with rising individual consumption, is pushing the planet beyond its carrying capacity. Water tables are falling on every continent as demand exceeds the sustainable yield of aquifers. According to Brown, Gardner, and Hawell (1998), the Earth's temperature is rising, promising changes in climate that cannot be anticipated. In their words, "we are triggering the greatest extinction of plant and animal species since the dinosaurs disappeared. As our numbers go up, their numbers go down".

## 3.2. Population growth in Africa

Sub-Saharan Africa (SSA) is reputed to experience the world's highest rate of natural increase in population, about 3% per year. Its population is projected to grow from about 700 million to 1.6 billion people by 2050. This large growth stems from the high total fertility rate (TFR) of about 6.0 children per woman, which is twice the world average. Table 2 is an illustration of percentage distribution of population change (1900-2150), comparing that of Africa with other regions, while Figure 1 shows the population density in Africa.

Major Area	1900	1950	1999	2050	2150
World	100	100	100	100	100
Africa	8.1	8.8	12.8	19.8	23.7
Asia	57.4	55.6	60.8	59.1	57.1
Europe	24.7	21.7	12.2	7.0	5.3
Latin America & Caribbean	4.5	6.6	8.5	9.1	9.3
North America	5.0	6.8	5.1	4.4	4.1
Oceania	0.4	0.5	0.5	0.5	0.5

Source: United Nations, 1992

Table 2. Distribution of population of major areas of the world, 1900-2150



# Average number of people per square mile

185.20 to 16,410.30 91.20 to 185.19 49.90 to 91.19 19.60 to 49.89 1.60 to 19.59

Figure 1. Map of Africa showing population density

Africa is the only region projected to have more than twice its current population size by 2050, increasing its share of the world's population to 20% (see Table 2). The continent's population will continue to grow exponentially if far-reaching measures are not adopted to reduce the current growth rate. Table 3 shows the birth rate (per 1000) from selected European and Africa countries. Whereas the lowest growth rate among the European countries (Germany) is 8.6 the lowest among the African countries (South Africa) is 18.87 per 1000. That of Tanzania, the highest among the African group (39.5) is more than 3 times that of the country (France) with the fastest growing rate (12.54) among the European countries.

Europe	France	12.54	
	Germany	8.6	
	United Kingdom	10.99	
	Italy	9.18	
Africa	South Africa	18.87	
	Tanzania	39.5	
	Algeria	21.94	
	Nigeria	38.75	

Source: CIA World Fact Book, December 2003

Table 3. Birth rates for selected European and African countries (per 1000)

West and Central Africa are experiencing a rapid annual population growth of between 2.7 and 2.9%, respectively (Bureau of Census, 2000). Other regions exhibit somewhat lower growth rates, but even the region with the lowest growth, Southern Africa, still experiences an annual growth rate of more than 1%.

# TO ACCESS ALL THE 26 PAGES OF THIS CHAPTER,

Visit: http://www.eolss.net/Eolss-sampleAllChapter.aspx

#### **Bibliography**

African Development Bank Group, (1998), *Summary: The African Development Report 1998*, 22 pp. Abidjan: African Development Bank. [This reviews the economic developments in Africa at both the macro-economic and sectoral levels].

Akatch, S. O., (1994), "Evaluative Review of Urban Planning Practice and Experience in Africa," 23 pp. Paper Presented in a Reappraisal of the Urban Planning Process, United Nations Centre for Human Settlements/Habitat. [This reviews the spatial planning, development and management of human settlement processes in Africa].

Al-Ahram Weekly, October 2-8, 2003, Issue #658

Barnard, R. and Newby, T., (2003), Sustainability of Terrestrial Ecosystems, http://www.ngo.grida.no/soesa/nsoer/issues/land/. [This paper explains how terrestrial resources are disappearing in South Africa due to the conversion of natural habitat to farmland, forestry, human settlement, and industrial development].

Brown, L. R; Gardner, G; and Halweil, B. (1998), "Beyond Malthus: Sixteen Dimensions of the Population Problem," Worldwatch Paper #143: Online: http://www.worldwatch.org/pubs/paper/143/. [This explains how countries that have experienced rapid population growth are showing signs of demographic fatigue].

Bureau of Census, (2000), *Population Reference Bureau and World Population Profile*, Washington, DC: United States Department of Commerce. [This is a compendium and analysis of data on population fertility, HIV/AIDS in the Developing World].

Burgess, R. and Carmona, M. (eds.), (1997), *The Challenge of Sustainable Cities: Neoliberalism and Urban Strategies in the Developing World*, London; New Jersey: ZED. [This paper examines some of the major challenges facing cities in Developing Countries in the light of globalisation and market economies].

Central Intelligence Agency [CIA], (2003), CIA World Fact Book, Washington, DC: CIA. [This is the US government's complete geographical handbook, featuring 268 full-colour maps of all nations and geographical entities. Each profile tracks such demographics as such population, ethnicity and literacy rates, as well as political, geographical and economic data].

Chang, H-J and Rowthorn, R., (1995), *The Role of the State in Economic Change in Africa*, 320 pp. Oxford: Claredon Press. [This book argues that market failure and government failure in Africa need to be analysed together, and that effective policy formulation needs to take account of both simultaneously].

Collier, P. and Gunning, J. W., (1998), *Explaining African Economic Performance*, 56 pp. Working Paper Series of the Centre for the Study of African Economies, WPS 97-2.2, University of Oxford. [This paper reviews and interprets the aggregate-level and micro-economic literatures to identify the key explanations for the slow growth and massive exodus of capital from Africa].

D'Arcy, R., (1998), "Gender and Soil Fertility in the VEZA/HODESA Program of Malawi." Report to the Gender and Soil Fertility Soils CRSP, Gainesville, Florida, USA. . [This paper examines the gender impacts of soil fertility crisis in Africa].

Dixon, R. (1982), "Women in Agriculture: Counting the Labour Force in Developing Countries," *Population Development Review*, 8, pp. 558-559. [This paper explains the role and impacts of women in agriculture in the Developing World].

Due, J.M. and White, M., (1986), "Contrasts Between Joint and Female-Headed Farm Households in Zambia," *Eastern Africa Economic Review* 2: 94-98. [This is an analysis of the differences between joint and female-headed farm households in Zambia].

Economic Commission for Africa [ECA], (1998), *African Economic Report 1998*, 240 pp. Addis Ababa: ECA. [This is a critical analysis of Africa's economic performance in the 1990s].

Gladwin, C., (2004), "Gender and Soil Fertility in Africa: An Introduction." African Studies Quarterly 6, no. 1&2: [online] URL: http://web.africa.ufl.edu/asq/v6/v6i1a1.htm. [This research paper examines whether the gender difference in wealth and land allocation between male and female farmers in maleheaded households is manifested in soil fertility indicators].

Goheen, M., (1996), "The Ideology and Political Economy of Gender: Women and Land in Nso, Cameroon," in: Gladwin, C.H., (ed.) *Structural Adjustment and African Women Farmers*. Gainesville, FL: University of Florida Press, pp. 239- 256. [This explores the general criticisms of structural adjustment programmes from the gender perspective to include the issues of welfare, efficiency, equity and employment].

Hill, P. (1963), *The Migrant Cocoa Farmers of Southern Ghana*, 281 pp. Cambridge: Cambridge University Press. [This book analyses the problems confronting migrant cocoa farmers in southern Ghana].

International Labour Organisation [ILO], (1996), Wage Workers in Agriculture: Conditions of Employment and Work, Sectoral Activities Program, Geneva: ILO. [This is a press release from the International Labour Organisation, explaining how pesticides and transport have become the major hazards of agricultural wage workers].

Jones, B., (2002), *Unmet Need for Contraception in the 21<sup>st</sup> Century: Sub-Saharan Africa*, Washington Dc: Population Resources Centre. [This document explains the difficulties health and social workers encounter in their attempt to promote contraceptive use in Sub-Saharan Africa].

London, L., (1992), "An Overview of Agrichemical Hazards in the South African farming sector," *South African Medical Journal*, 81:560-564. [This examines the hazards caused by agro-chemicals in selected communities in Sub-Saharan Africa].

London, L. and Myers, J. E., (1995), "Critical issues in Agrichemical Safety in South Africa," *American Journal of Industrial Medicine*, 27(1):1-14. [This article examines some safety measures that can help protect farmers using agro-chemicals].

London, L.; Ehrlich, R; Rafudien, S; Krige, F; and Vurgarellis, P; (1994), "Notification of Pesticide Poisoning in the Western Cape 1987 - 1991," *South African Medical Journal*, 84:269-272. [This is a research paper that discusses pesticide poisoning in the Western Cape Province of South Africa between 1987-1991].

Marcoux, A., (2001), *Population Ageing in Developing Societies: How Urgent are the Issues? 345 pp.* New York: United Nations Population Division. [This book examines the implications of population ageing in developing societies].

Pinker, A., (1997), *Environmental Health Action Programme*, Budapest: Prospektus Nyomda. [This proposes action plans that can help maintain environmental health, especially in the Developing World].

Quisumbing, A. R., (1996), "Male-Female Differences in Agricultural Productivity: Methodological Issues and Empirical Evidence," *Economic Development and Cultural Change*, Volume 24: 1579-96. [This paper analyses the different agricultural productivity level of both males and females].

Rosen, L., (2002), *AIDS in Africa*, 205 pp. Cape Town: University of Western Cape. [The author develops a methodology for estimating the cost of HIV/AIDS to business and the general impact of HIV/AIDS on the economy of Sub-Saharan countries].

Simone, A. M., (2000), Opportunities, *Risk and Problems in the Urban Sphere: Rethinking African Urban Sustainability in Time of Uncertainty*, 189 pp. Addis Ababa: Economic Commission of Africa. [The book examines the opportunities, risks and problems associated with urbanisation in Africa].

Udry, Christopher, (1996), "Gender, Agricultural Production, and the Theory of the Household," *Journal of Political Economy*, Volume 104: 1010-1046. [The author examines whether agricultural plots controlled by women are framed in the same manner as similar plots within the households controlled by men].

UNAIDS and World Health Organisation, (2002), *Global Summary of the HIV/AIDS Epidemic*, Washington, DC: World Health Organisation. [This is a comprehensive analysis of all aspects of HIV/AIDS epidemic, from the spread of HIV and treatments to the availability of resources, and provides country-by-country figures on the extent of the epidemic].

United Nations, (1998), *World Population Prospects*, New York: United Nations Population Division. [This describes the trends in population growth and other key demographic indicators between 1750-2050].

United Nations, (1992), *World Population Prospects*, New York: United Nations Population Division. [This describes the trends in population growth and other key demographic indicators between 1750-2050].

United Nations Centre for Human Settlements [UNCHS], (1996), An Urbanising World: Global Report on Human Settlements 1996, Oxford; Nairobi: Oxford University Press. [This examines the future of human settlement in the light of the rapid urbanisation in the world].

United Nations Department of Economic and Social Affairs [UNDESA], (1999), *Theory of Demographic Transition*, Washington DC: UNDESA. [This seeks to analyse and explain the changing demographic trends in the world and their implications for socio-economic development].

United Nations Environment Programme [UNEP], (2002), *Africa Environment Outlook: Past, Present and Future Perspectives*, Nairobi: UNEP. [This is a comprehensive report on the state of Africa's environment, and traces environment and development trends since the 1972 UN Conference on Human Environment. It proposes alternative policy options for the future as well as recommends concrete policy actions for follow-up at national and sub-national levels].

United Nations Population Fund (2001), *The State of the World Population 2000*, Washington, DC: UNPFA. [This explores the possibility of creating equal power relations between men and women in order to promote sustainable development].

Wesseling, C; B. de Joode, W; and Monge, P., (2001), "Pesticide-Related Illness and Injuries among Banana Workers in Costa Rica: A Comparison between 1993 and 1996," *International Journal of Occupational Environmental Health*, 21;7-12. [This study examines the determinants of acute pesticide-related illness on banana plantations in the Atlantic Region of Costa Rica].

World Health Organisation, (2002), *Malaria in Africa*, Geneva: World Health Organisation. [This document examines the burden of malaria on the health of the peoples of Sub-Saharan Africa].

World Health Organisation, (1996), *Managing water in the home: Accelerated Health Gains from Improved Water Supply*, Geneva: World Health Organisation. [This book discusses the health benefits of improved water supply].

World Bank, (1995), A Continent in Transition: Sub-Saharan Africa in the 1990s, Washington DC: The World Bank. [This examines whether the imposition of structural adjustment programme, privatisation and deregulation policies has resulted in impoverishing the populations of heavily indebted countries at the mercy of speculative capital].

World Summit on Sustainable Development [WSSD], (2002), World Summit on Sustainable Development Plan of Implementation, Johannesburg: WSSD. [This is the report of the outcome of the World Summit on Sustainable Development held in Johannesburg, South Africa in 2002].

#### **Biographical Sketch**

**Kwame Ameyaw Domfeh, Ph.D.** is a senior Lecturer, Department of Public Administration, University of Ghana Business School, Legon, Ghana. Until recently he was a Senior Lecturer and the Head of the Department of Public Administration and Health Services Management of the University of Ghana, where he was teaching since 1993. His teaching and research interests include environmental policy and politics, environmental problems in the Third World, sustainable cities, and urban governance.

He was educated in both Ghana and the United States. He holds a Ph.D. in Public Administration. His Ph.D. thesis, *Private Sector Participation in Solid Waste Management in Accra, Ghana*, seeks to explain whether contracting out of public services in particular, and privatisation in general, is a viable solution to the related problems of government inefficiency, ineffectiveness and growth.

His most recent publications include:

- "Compliance and Enforcement in Environmental Management: A Case of Mining in Ghana," *Journal of Environmental Practice*, 5(2):154-165 (2003).
- "Enhancing Environmental Management through Capacity Building," *Journal of Management Studies*, Volume 17:51-75 (2002).
- "Environmental Legislation in Ghana: Quantitative Comparison between Military and Civilian Regimes," *Indian Journal of Environmental Protection*, 21(1):1-9 (2001).
- "Intergovernmental Relations and Environmental Management in Ghana," *GIMPA Journal of Leadership, Management and Administration*, 1(1):67-81 (2001).

The under-listed articles have also been accepted for publication:

- "The New Public Management: The Experience of Ghana," *GIMPA Journal of Leadership, Management and Administration*, (Forthcoming).
- "The Fourth Republican Constitution of Ghana and Sustainable Development," *Legon Journal of International Affairs (LEJIA)* (October, 2004).
- "Managing the environment in a decade of administrative reforms in Ghana," *International Journal of Public Sector Management*, (October 2004).

His vision is to see the promotion and the translation of the key elements of sustainable development into a global reality.