

---

## **Is sustainable development achievable in Ghana? An analysis of Ghana's development policy achievements and challenges**

---

**Kwame Ameyaw Domfeh, Albert Ahenkan and  
Justice Nyigmah Bawole\***

Department of Public Administration and  
Health Services Management,  
University of Ghana Business School,  
P.O. Box LG 78, Legon, Accra, Ghana  
E-mail: kadomfeh@ug.edu.gh  
E-mail: aahenkan@ug.edu.gh  
E-mail: jnbawole@ug.edu.gh

\*Corresponding author

**Abstract:** Since the Stockholm Conference on the Human Environment in 1972 and the subsequent publication of the Brundtland report in 1987, Ghana has embarked upon the path of sustainable development (SD) through the development and implementation of policies deemed necessary to safeguard the environment and promote socio-economic development. Despite this commitment, the country is still characterised by poor environmental and human health, poverty, poor sanitation, low access to potable drinking water, energy, and high population growth. This paper uses sustainability frameworks to investigate the achievability of SD in Ghana. The key policies related to SD issues such as the environment, poverty reduction, health, water and sanitation, energy and population growth are analysed and the main achievements and challenges identified. The paper asserts that SD of Ghana could be a passing fad if issues confronting the country's sustainability are not addressed. The paper provides policy recommendations and strategies that will enable policy-makers to effectively tackle the SD challenges in the country.

**Keywords:** environment; energy; health; policy; sustainable development; sanitation; water; Ghana.

**Reference** to this paper should be made as follows: Domfeh, K.A., Ahenkan, A. and Bawole, J.N. (2012) 'Is sustainable development achievable in Ghana? An analysis of Ghana's development policy achievements and challenges', *Int. J. Environment and Sustainable Development*, Vol. 11, No. 3, pp.304–317.

**Biographical notes:** Kwame Ameyaw Domfeh is an Associate Professor at the Department of Public Administration and Health Services Management, University of Ghana Business School, Legon. He was educated in both Ghana and the USA and holds a PhD in Public Administration from the University of Ghana. His research interest is in sustainable development issues with particular emphasis on environmental policies and politics, urban management and decentralisation, local initiatives and ethics in administration.

Albert Ahenkan is a Lecturer in the Department of Public Administration and Health Services Management at the University of Ghana Business School, Legon. He holds a BA in Sociology and Geography from the Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana, a Master's and PhD from the Vrije Universiteit Brussel (VUB), Brussels, Belgium. His research interest is in the areas of sustainable development, environment and development, climate change, healthcare management, food security, water and sanitation.

Justice Nyigmah Bawole is a Lecturer in the Department of Public Administration and Health Services Management, University of Ghana Business School, Legon. He received his MPhil in Public Administration from the University of Ghana. Prior to his appointment as Lecturer, he worked as Project Manager of an Accra-based NGO. He teaches management of NGOs, environmental management and public administration. His research interest is in sustainable development, particularly environment-poverty relationships, ethics, poverty reduction and state-NGO relationships.

---

## **1 Introduction**

Since the Stockholm Conference on the Human Environment in 1972 and the subsequent publication of the Brundtland report in 1987, the issue of sustainable development (SD) has moved to the centre stage of the global development agenda. The concept of SD was brought to the fore following growing concerns throughout the 1970s and 1980s about the current and future environmental impact of prevailing patterns of economic growth and development. Since then, the concept of SD has been introduced into the mainstream of international environmental debate and continues to be examined in literature in various fields. This has led to increasing pressure on the international community to rethink many of the concepts related to environment and development (UNESCO, 2006a; Carvalho, 2001; Ornat, 1996). But SD has remained rhetoric to say the least without consensus on its meaning (Holmén, 2001). The world understands that development must be socially acceptable, economically viable and environmentally friendly. Thus, development must be integrated (UN, 1993; UNCED, 1992).

Although no effective governmental action was taken to address the issue of SD in Ghana until 1972 (Anane, 2004), the country adopted a number of policies and strategies which provided the framework for interventions deemed necessary to safeguard the environment and redirect development efforts in the country into a more sustainable path (UNEP, 2002; Boon et al., 2010; Anane, 2004; Benneh et al., 1996). Since then, in the area of natural resource management and environment protection, the integration of economic, environmental and social considerations became the core development policy concern. A number of ministries and organisations have been established in the country dedicated to environmental protection and SD. In addition, several non-governmental organisations and major groups have been established to support, promote and deal with SD issues such as environmental protection, poverty reduction, health and sanitation, energy, and population growth at local, regional and national levels.

Despite this commitment, the last two decades have been characterised by a high incidence of environmental degradation, poverty, poor environmental health and sanitation, low access to potable drinking water, inadequate access to energy, high population growth and accelerated destruction of biodiversity. Using sustainability analysis, this paper examines the concept of 'SD' in the Ghanaian context and the sustainability of the various development policies; achievements and the challenges on issues related to SD in the country. Finally, the paper suggests appropriate policy recommendations for facilitating the SD of Ghana.

## 2 SD: definition and conceptual issues

Pezzey (1989) suggests 60 definitions for SD but for the purposes of this paper 'SD' is defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987). Development must be viewed as related parts of economic, social and environmental improvement and resource use should protect human health and well-being.

The debate over SD has raged on since the concept was coined in the 1980s (Barbier, 1987; Jepson, 2004; Archibugi et al., 1989). Some authors have questioned achievability of SD and that development cannot be simultaneously socially, economically, and environmentally sustainable. Holmén (2001) notes that both 'sustainable' and 'development' are difficult to pin down. Maslow (1954) also argues that needs change as society develops. Holmén (2001) wonders how we can avoid compromising future generations' needs, when we cannot foresee what these needs will be. In spite of such arguments and the numerous challenges hindering SD, the international community is strongly convinced that SD is achievable (Daly, 1994; EU, 1993; UNESCO, 2006a). The world cannot continue to act, produce and consume unsustainably. As indicated by H.E. Kofi Annan, former United Nations Secretary General, "this is the time to act especially on water, energy, human health, agriculture and biodiversity (WEHAB)", if the world is to achieve SD (Annan, 2002).

## 3 Methodology

As has already been indicated, this paper is an outcome of an exhaustive review of existing literature on SD and sustainability analysis of Ghana's SD policies related to environment, poverty reduction, health and sanitation, energy and population growth. *Sustainability analysis* (UNDP, 2004) is an analytical tool that can be used to assess the human and environmental conditions, major strengths and weaknesses, key relationships between human and ecosystem elements and between a country (or locality) and the larger system, how close the society is to sustainability, and the directions of change. This tool is crucial for assessing the sustainability of national SD policies towards SD of a country. The collected data and information were subjected to *narrative analysis* and *indicator-based analysis*. The review was also spiced by data collected through stakeholder consultations in Accra and experts dealing with SD issues in Ghana between July-August 2010. Information on issues pertaining to SD policies and institutional processes in Ghana were also collected through stakeholder consultations from selected ministries, departments and agencies (MDAs), relevant civil society organisations and

individuals in the Accra Metropolis. The main SD policies analysed are those related to poverty, health, environment, water and sanitation, energy and population growth. These sectors have been selected because they are also inter-linked with the Millennium Development Goals.

#### **4 Analysis of SD policies in Ghana**

This section analyses various public policies related to SD issues, achievements and challenges. There is no doubt that progress has been made over the years towards SD with regard to slower population growth, improved health, reduced mortality rate, and improved access to education. However, most of the pertinent issues such as environment, poverty, access to water and sanitation, and energy which are critical for the SD of Ghana have achieved very little progress.

##### *4.1 Poverty reduction*

Economic growth, social development, and eradication of poverty are essential for achieving the objective of SD (UNCED Agenda 21). Ghana has made some progress in poverty reduction through the implementation of the Ghana's Poverty Reduction Strategy Policy over the last decade in terms of reducing the number of people who are poor. Though absolute poverty continued to decline from 51.7 to 28.5% in 2006 (IMF, 2009), poverty is still high in Ghana and remains one of the major hindrances to SD in the country. Income growth is a prerequisite for sustainable poverty reduction and sustainable poverty reduction is a necessary condition for SD. Poverty has exacerbated the SD challenges of the country including poor nutrition, poor housing conditions, impaired access to health and other services and low levels of education which also increases the exposure of the poor to environmental risks and reduces their ability to mitigate negative environmental health impacts. Poverty is thus one of the most important driving forces in relation to environmental health degradation in Ghana and needs to be tackled with all the seriousness it deserves. Environmental changes almost always have a greater impact on those who live in poverty. Provision of income generating activities will help to reduce poverty and significantly improve environmental resources management. Poverty continues to be pervasive, intractable and inexcusable in Ghana. It is probably one of the main threats to the SD of Ghana. It is intrinsically linked to environmental degradation and deterioration of livelihoods in many developing countries. Poverty is both the agent and victim of environmental change; the value of the environment cannot be divorced from the lives of living creatures (Angelsen, 1995; Sen, 2006; Opschoor, 2007). The key challenges have been the less empowered citizenry to hold duty bearers to account; the weak local institutions; and the politically polarised and corrupt centre. The net effects of these have been minimal decentralisation of poverty reduction programme implementation and frequent changes in policies and the implementation teams.

##### *4.2 Population dynamics*

Population, its growth and management constitute a key ingredient of SD. Whereas several initiatives have been adopted to manage the growth rate of Ghana's population,

the trend in the population rates are quite revealing. Between 1984 and 2010, Ghana's population increased from 12.2 m to 18.9 m in 2000 and to 24.2 m in 2010 (GSS, 2011), almost doubling in less than 30 years. Although the intercensal growth rate declined from 2.7 to 2.4, between 2000 and 2010, the percentage increase of 28% within the same period looks quite alarming. A doubling of Ghana's population every 30 years throws out a lot of challenge for SD of the country. The population density has increased from 52 in 1984 to 79 in 2000 and to 102 in 2010, also doubling in about 30 years (GSS, 2011). This increases the pressure that is brought to bear on land and other natural resources. This is especially so as 55.8% of the country's employed population is in the agricultural sector (GSS, 2008). Additionally, this requires the state to double its efforts at mobilising financial resources for social services and infrastructure provision such as education, health, sanitation among others. In an agricultural dominated country such as Ghana, where a significant percentage of the population depends on the land for sustenance, uncontrolled population increase results in the shrinking of the land per head for agricultural purposes, culminating in the younger population being pushed into the cities for non-existent jobs with its associated risky behaviours.

One of the key factors in population dynamics is the fertility rate. Though Ghana's fertility rate keeps declining from 6.4 in 1988 to 4.0 in 2008, the rural fertility rates are declining at slower rates and still very high at 4.9 (GHS, 2009). This is consistent with the findings of Cleland et al. (2011, p.137) that "fertility is not likely to decline at a fast sustained pace unless a large and growing number of couples are *ready, willing and able* to use modern contraception". What is true is that these conditions for achieving declining fertility are not easily met. One key factor to fertility decline is education level of women, which is very low in several parts of Ghana. For instance, the Northern Region of Ghana records very high (65.7%) female population without formal education. The obvious impact of this on fertility decline is negative. Young ladies tend to marry early and procreate faster consequently increasing the fertility rates (Campbell et al., 2007) hence, with Ghana's population being largely youthful (40% below 15 years) (GSS, 2008), and with 21.2% of the national female without formal education (GHS, 2009) fertility rates are very likely to decline rather slowly. It is important to acknowledge that, Ghana's efforts at managing fertility rate are better than West Africa's current averages of 5.5% (Cleland et al., 2011). However, with the use of contraception as low as 24.2% in Ghana (GSS, 2008), fertility management still presents a huge challenge for the country's SD efforts.

HIV/AIDS presents yet another key challenge to the population dynamics in Ghana. According to GSS (2008), about 4% of Ghanaians have not heard of HIV before, another 16% do not know that a healthy looking person can have the virus that causes AIDS (GSS, 2008), and some of these people attribute symptoms of HIV/AIDS to the effects of spells cast on the victims. The current rate of transmission in Ghana is reported to be 1.9%, although some regions have rates as high as 5.8% (GAC, 2010). The important point to note is that the decline in the prevalent rate has failed to be consistent. The challenge remains as how to sustain the decline and reduce it further among high risk groups.

Population dynamics also throw out the challenge of managing unemployment especially where the productive sectors of the economy expand rather very slowly. Ghana's education system produces several thousands of graduates from her educational

systems annually most of who are unable to find employment. With a youthful population and a not faster expanding productive sector, several of the graduates from the universities and polytechnics have lost faith in the economy of Ghana. High unemployment or underemployment results in the under utilisation of the most active segment of the country's labour force.

Whereas Lutz et al. (2001) have argued that the world's population increases will cease, they admit that in Africa, this will take a longer time and we conceive that although the trend is slowing, it will take a more significant and well coordinated programming to further slow down the population growth in Ghana. The reliance on the *readiness, willingness* and *ability* of the population to adopt birth control measures need to change to a more vigorous campaign for birth control and the provision of accessible services to encourage patronage for the SD of the country.

#### 4.3 Environment

The environment is the bedrock of the SD of a country. To promote sound environmental protection and management in Ghana, a number of policies related to the environment including the National Environmental Policy (NEP) were initiated over the last two decades. The aim was to put environmental issues on the priority agenda and to provide a broad framework through the National Environmental Action Plan (NEAP) for the implementation of the actions to ensure sound management of environmental resources, promote human development and avoid over-exploitation of environmental resources in ways that may result in irreparable damage to the environment (Boon et al., 2010). The policy seeks to ensure reconciliation between economic, social and environmental development of the country. According to Afful (1999), the NEAP provides a coherent framework for the various interventions necessary to safeguard the environment. Domfeh (2004) affirms that some consideration was given to the process of managing environmental concerns during the period of 1990–2000 when a series of administrative reform programmes were initiated but these reforms have achieved modest results.

Little progress has been made in most of the indicators relating to environmental policy area. The poor state of environmental health in Ghana is a clear indication that the existing policies and laws are inadequate to effectively redirect the country's development path towards SD. IMF (2009) estimates that cost of environmental degradation keeps increasing and was estimated to have accounted for nearly 6% of GDP of the country. The state of the environment in Ghana is still characterised by high rates of deforestation, land degradation, desertification, soil erosion, pollution of water bodies, and the intensification of bad agricultural practices. The country continues to lose its remaining closed forests at an alarming rate. It is estimated that about 20,000 hectares per annum of the reserved area is lost to agriculture or through bush fires and other human activities (Siaw, 2001; Boon et al., 2010). The environmental challenges have exacerbated the socio-economic difficulties of the country and increased the awareness about the critical importance of environmental problems in national development. The factors causing the degradation of environmental health in the country include excessive logging, pollution of air and water bodies, unsustainable farming methods, and annual bushfires. Underlying these environmental degradation are environment and forest policy failures, weak institutional structures, and population pressures (FAO, 2001).

#### *4.4 Safe drinking water, household and environmental sanitation*

Ensuring the provision of potable drinking water to the population is one of the crucial elements of SD of every country. Ghana is fairly well-endowed with water resources to meet the estimated national demand of about 321 million m<sup>3</sup>. However, the inability of the government to provide the population access to clean water and sanitation systems is a central public health concern, contributing to 70% of diseases in Ghana (OECD, 2007). Water supply and sanitation sectors in Ghana face severe problems, partly due to a neglect of the sector until the 1990s. There is also a substantial variation in access to clean and affordable water supply, depending on income, between rural and urban areas, and across regions in Ghana. Though the government is tackling some of the major constraints to improving the water supply in the country, a significant proportion of the population still has no access to potable drinking water. According to the Ghana Water Sector Restructuring Secretariat (WSRS), by 2005, only 46% of the total population had access to piped water. Uninterrupted access to treated and piped water is only significant in some urban areas. Average urban access is 46%; while in rural areas only 35% of the population has access. OECD (2007) estimates that the percentage of the population with access to improved sanitation facilities is approximately 40% in urban areas and 35% in rural areas. To meet the Millennium Development Goals, water supply coverage for the urban areas will have to be increased to 88% and sanitation coverage must be increased to 80%. To ensure Ghana moves towards a more SD path, provision of potable drinking water to the population and sustainable management of water resources must be a top priority.

Access to improved sanitation is one of the most overlooked human needs in the world today (UNESCO, 2006b; UN, 2007; WHO, 2000). Sanitation is nothing less than a fundamental issue of human dignity, human rights and a cornerstone of SD. The state of environmental sanitation has direct impact on the health and level of vulnerability of the population. An important challenge to improving the health status of the poor in Ghana is how to ensure a balance between direct health care and the preventive aspects, especially in the provision of safe water and sanitation. Environmental risk factors such as pollution, poor sanitation and exposure to disease vectors have a significant impact on health outcomes in the country.

The Ghana Environmental Sanitation Policy dates from 1999. It is the framework for environmental sanitation of the country. It seeks to improve the sanitation situation of the country. It covers all aspects of environmental health, including excreta disposal and solid waste management. It sets out responsibilities for the various stakeholders, from individuals through community organisations to the metropolitan, municipal and district assemblies (MMDAs) as well as health, education and the private sectors. The policy has achieved some success and gains in health and sanitation in Ghana over the past ten years. The percentage of rural population with access to safe drinking water increased marginally from 52.0% in 2005 to 53.18% in 2006; access was much better for the urban population than for the rural population, and increased from 55% to 56.0% (IMF, 2009). However, despite these achievements, the challenges remain. Some of the more severe problems include unsanitary conditions, insect infestation, uncollected garbage, poor waste water disposal, smoky kitchens, crowding and shelter poverty. About 75% of the ailments in the country are attributable to poor environmental health and sanitation and lack of access to good drinking water (Ahenkan et al., 2008) with malaria alone

accounting for 42% of outpatient attendance at clinics and hospitals and cause of most deaths in Ghana (WHO, 2002; Ahenkan et al., 2008).

The greatest challenge is inadequate provision of sanitary facilities, unsafe drinking water and poor built environment. Close to 85% of all refuse generated in Ghana is currently not collected or disposed of in a proper manner (MLGRD, 2010). Less than 40% of urban residents are served by a solid waste collection service and less than 30% by an acceptable household toilet facility (Larbi, 2006). For instance, a recent inspection of sanitary facilities in the city of Accra by the Metropolitan Chief Executive reveals that 91% of the residential facilities in the metropolis are without private places of convenience (Daily Graphic, 2011). The startling figures released by the Public Health Unit of the assembly also revealed that the situation had created a heavy dependence on public toilets and unapproved places for the disposal of human waste in the city. Significant number of households still uses the pan latrines as places of convenience though such facilities had been banned in the metropolis. Sanitation-related diseases such as cholera, diarrhea, typhoid fever and malaria are therefore on the rise mainly due to poor environmental health and sanitation (NDPC, 2010).

Generally, the poor state of environmental health and sanitation of the country's cities is not only an engineering problem but also rapid urbanisation, poor financing capacity of local authorities, low technical capacity for planning and management of solid waste, and weak enforcement of environmental regulations. Progress made towards improving sanitation is seriously compromised by a number of critical issues including lack of political will, poor drainage system, and attitude of the citizenry. The problem is compounded by the lack of a clear national vision of environmental sanitation and inadequate allocation of resources for environmental sanitation services at all levels.

#### *4.5 Energy provision*

The gap between energy supply and demand in Ghana has been growing. Energy is essential for development and therefore sustainable sources of energy are crucial for SD of Ghana. The government of Ghana has pursued its energy policy over the last decade with broad framework for the implementation of various projects with the aim to accelerate access to energy services to the population but the percentage of the population with access to energy supply is low. NDPC (2010) estimates that the percentage of households with access to electricity supply in Ghana increased, though marginally, from 45% in 2005 to 48% in 2006.

Historically, biomass has dominated Ghana's energy mix (GEC, 2010). Wood fuels represent the main source of energy for domestic needs such as cooking for about 73% of the urban population and more than 98% of the rural population (Arthur et al., 2010; GEC, 2010). This over-dependence and utilisation of woodfuels has contributed partly to the deforestation, soil erosion, desertification, water scarcity, food insecurity and poverty and emission of some greenhouse gases in Ghana. With an expanding economy and growing population, Ghana faces major challenges in providing the required amount of energy with reliability and sustainability. Wood fuel consumption in Ghana is also expected to rise almost five times from 14 million tonnes in 2000 to 66 million tonnes by 2020. Total petroleum demand is also projected to grow from about 1.6 million tonnes in 2000 to 4.5 million by 2020, whilst electricity demand for the domestic market is projected to exceed 4,400 MW in 2020 (Arthur et al., 2010). With the discovery of oil in Ghana, it is expected that meeting the energy demands of the country will significantly



improve, though experts are very sceptical about the potential of the oil find to solve energy problems of the country.

Other biomass resources including organic waste have the potential to reduce the over reliance of woodfuel and fossil fuel. Ghana needs to make clean and renewable energy supplies accessible and affordable to reduce dependence on woodfuel. Demand-side management and energy efficiency activities will need to be sustained and expanded. There should be more policy measures to promote energy efficiency and conservation through fiscal incentives, awareness creation, institutional and human resources capacity development, and financial intermediation.

## **5 Policy recommendations**

For SD to be realised, all efforts and policy processes must be iterative, cyclical and a never-ending process. The reasoning behind this is that the pressures that threaten to derail any attempt at ensuring sustainability are never ending. Several factors including the desire to maximise benefits by both governments and individuals could result in the free rider syndrome – where actors prefer to take advantage of the existing weaknesses rather than contributing to curing it. To consolidate the efforts at SD, we offer the following policy recommendations for the attention and discussion of policy makers and researchers.

### *5.1 Harnessing the potential of third sector in poverty reduction*

Poverty is a major determinant of poor environmental health challenges in Ghana and its reduction is therefore a very critical tool in SD of the country. An intensification of investment in social protection programmes such as the National Health Insurance Scheme, free maternal care, school feeding, capitation grants to offload fees on pupils in basic school, and the cash disbursing Livelihood Empowerment Against Poverty (LEAP) programmes will reduce the chronic poverty situation in some parts of Ghana. What has been the bane of these programmes includes political machination, malingering and acrimony.

The NGO sector in Ghana is rarely featured in the poverty reduction efforts of Ghana except for calls to have them participate which has tended to be rhetorical. A strong partnership with the third sector will provide lots of insight and common grounds for the targeting and mainstreaming the poorest into national policy. NGOs and other third sector organisations are providing significant support to government but these efforts are hardly coordinated. This paper proposes a mandatory requirement for local government and NGOs operating in their respective jurisdictions to collaborate on various fronts. This will ensure that local development becomes coordinated.

### *5.2 Management of energy resources*

In Africa, the challenge has often been how to manage new energy resources such as petroleum and other minerals for the benefit of the population. Since Ghana joined the league of oil producing countries in 2010, the calls have been to manage the oil resources in ways that will be equitable and transparent. A comprehensive policy on the use of the energy resources in spinning off other industrial development including support to

agriculture in the form of the production of inorganic manure, promotion of the adoption and usage of LP gas for both domestic and industrial purposes will ease the pressure on the destruction of the forest resources. The generation of alternative power sources will help reduce the cost of production in Ghana which should stimulate the private sector into expanding to absorb the teeming youth from our educational institutions. It is a developmental suicide for Ghana to have started commercial production of oil without a national policy instrument to guide the industry and to indicate government's direction with regard to the use of the proceeds of the oil.

This paper advocates what we term *Concentrated Annual Investment Plan Account (CAIPC)*. CAIPC entails the avoidance of the *thin* spreading of oil revenues over several investment areas. It also entails the avoidance of the use of oil revenue for budgetary support. CAIPC advocates the setting of a separate account for a significant percent of all oil revenues to be used for national infrastructure development; a national plan of ranked priority sectors with an indication of how many years of oil revenue investment it should receive. For instance, if the national plan indicates road and rail infrastructure as the most important sector, a decision (also included in the plan) is made of how many years of oil money be invested in this sector before the investment shifts to the next important sector on the national plan. Changes in government will not change this plan ensuring continuity in national development. This will prevent the wanton dissipation of national resources on politically convenient projects which often get abandoned with changes in government.

### *5.3 Strengthening state regulatory agencies*

Ghana does not seem to have a problem with legislation and policy formulation. The key challenge has always been the capacity of the implementation agencies to effectively implement and monitor these policies. Individuals and business organisations will pursue their economic interest often to the peril of public interest. National regulatory agencies should therefore have the capacity to forestall and curb the growing menace of recklessness of companies in fishing, mining and the forestry sectors. A critical issue relating to capacity enhancement is logistical and human resource constraints facing most of the state regulatory institutions. Often, due to the poor remuneration and working conditions, coupled with the logistical constraints, capable personnel get poached by the private and NGO sectors. Logistically, most state agencies (e.g., EPA, Forestry Commission, Minerals Commission, and Fisheries Commission) are hugely constrained and the personnel in these agencies often lose their enthusiasm. A national commitment to capacitate these agencies, first with motivated and capacitated staff well paid to ensure they give off their best is one of the sure ways of pushing the frontiers of SD in Ghana.

### *5.4 The role of local government*

As the closest governmental agency to the people, the role of local government in SD has been long acknowledged. In devolved local government systems, the local authorities take the commanding lead in ensuring that sanitation, climate change, land use, water bodies and natural resource protection among other key variables are handled well. Unfortunately, local governments in Ghana have remained administrative hubs of the central government (Domfeh and Bawole, 2009) with very little initiative relating to SD. A number of these agencies do not have qualified planning officers, environmental

management experts, engineers, and others who will propel the SD agenda. An elaborate policy of decentralising the recruitment of capable technical and professional staff to man these agencies will enhance the desire for accelerating the pace for SD in Ghana. In the meantime, an enticing remuneration package to attract these key personnel to the local government sponsored by the central government will enhance the capacity of these agencies. A longer term agenda to devolve power and empower local government in Ghana to recruit and properly pay their staff will significantly improve the capacity of local government for SD.

### *5.5 Broadening the frontiers of democracy*

In Africa, one of the key setbacks to SD is political and ethnic conflicts and militarism in the body politic. Gains achieved over several years get dismantled with ethnic upheavals, military experimentation and looting, as well as corruption. Although Ghana has had nearly two decades of unbroken democratic rule, occasional political conflicts between the two major political parties and the very high tensions during elections serve as threats to SD. The current spade of youth rampages and unlawful seizures of state assets and property in the name of political ‘foot-soldiering’ is a very worrying trend. The cultivation of trust and the enhancement of the commitment of the political and administrative leadership to the principles of the social contract to act in the ultimate interest of the citizenry are critical for the attainment of SD. This commitment will ensure that policies and programmes adopted for Ghana reflect the interest of the public and not the parochial interest of the ruling elites. The institution of more credible electoral systems and transparent election management will help to enhance the quest for SD.

### *5.6 Research and development*

Provision of funds and creation of incentives on research into environmental issues will significantly help to enhance environmental management and SD of Ghana. Pollution prevention technologies, as well as technical innovations that improve on the efficient use of natural resources are necessary for environmental sustainability in Ghana. Government should support programmes that protect the quality and attributes of key environmental services in the country.

## **6 Conclusions**

SD is a challenging endeavour with huge demands on any nation desiring it. With such a multifaceted and multidimensional concept, its attainment certainly requires multifaceted approaches. Although several and myriad of policies have been pursued over the years; and although some progress have been made in several respects over the years, the challenges remain. From environmental and natural resources management, poverty, sanitation, energy, water and population have all been managed in various ways. However, much remains to be done if SD must be achieved in Ghana. The results achieved have not been consistent and characterised by occasional slippages and complacency in policy implementation. The paper proposes a consistent and iterative policy implementation process and effectiveness in policy monitoring and evaluation as measures for consolidating the gains on the various fronts. On specific issues, the paper

proposes harnessing the potential of the third sector in poverty reduction policy implementation, a renew and holistic management of the new energy resources, strengthening state regulatory agencies, strengthening the role of local government agencies and the broadening of the frontiers of democracy as well as promoting research and development.

## References

- Afful, J.E. (1999) 'Environmental policy and legislation in ECOWAS: the case of Ghana', in Boon, E. and Hens, L. (Eds.): *Key Economic and Legal Instruments for Environmental Management in West Afrika*, Proceedings of a seminar held at Sogakope, Ghana in 1999, pp.49–60.
- Ahenkan, A., Boon, E. and Ameyaw, K.D. (2008) *Human and Environmental Health Linkages in Ghana: A Case Study of Bibiani-Bekwai and Sefwi Wiawso Districts*, pp.2–28, Grin Academic Publishing, Munich, Germany.
- Anane, M. (2004) 'Towards sustainable development in Ghana, non-governmental liaison service UN-NGL', *Voices from Africa*, Vol. 2, No. 6, New York, USA.
- Angelsen, A. (1995) 'Shifting cultivation and 'deforestation': a study from Indonesia', *World Development*, Vol. 23, No. 10, pp.1713–1729.
- Annan, K. (2002) 'Towards a sustainable future', A speech delivered at the American Museum of Natural History's Annual 'Environmental Lecture' by the Secretary-General of the United Nations, New York, pp.1–3, available at [http://www.un.org/News/dh/latest/sust\\_future.htm](http://www.un.org/News/dh/latest/sust_future.htm) (accessed on 5 February 2010).
- Archibugi, F., Nijkamp, P. and Soeteman, P. (Eds.) (1989) *Economy and Ecology: Towards Sustainable Development*, 348p, London, Kluwer.
- Arthur, R., Baidoo, M.F. and Antwi, E. (2010) 'Biogas as a potential renewable energy source: a Ghanaian case study', *Renewable Energy*, Vol. 36, No. 5, pp.1510–1516.
- Barbier, E.B. (1987) 'The concept of sustainable economic development', *Environmental Conservation*, Vol. 14, No. 2, pp.101–110.
- Benneh, G., Morgan, W.B. and Uitto, J.I. (Eds.) (1996) *Sustaining the Future: Economic, Social, and Environmental Change in Sub-Saharan Africa*, pp.3–38, United Nations University Press, Tokyo.
- Boon, E., Ahenkan, A. and Domfeh, A. (2010) 'Placing the environment in the core of Ghana's development agenda: sustainability and stakeholder analysis', in Kendie, S.B. (Ed.): *Rethinking Development in Africa*, pp.81–105, University of Cape Coast, Cape Coast.
- Campbell, M., Cleland, J., Ezech, A. and Prata, N. (2007) 'Public health – return of the population growth factor', *Science*, Vol. 315, No. 5818, pp.1501–1502.
- Carvalho, G.O. (2001) 'Sustainable development: is it achievable within the existing international political economy context?', *Sustainable Development*, Vol. 9, No. 2, pp.61–73.
- Cleland, G.J., Ndugwa, R.P. and Zulu, E.M. (2011) 'Family planning in sub-Saharan Africa: progress or stagnation?', *Bulletin World Health Organisation*, Vol. 89, No. 2, pp.137–143.
- Daily Graphic (2011) *Alarming: No Sanitation Facilities in 91% of Homes*, 15 January 2011, 3p, Accra Metropolitan Assembly, GNA, Accra.
- Daly, H. (1994) 'Fostering environmentally sustainable development: four parting suggestions for the World Bank', *Ecological Economics*, Vol. 10, No. 3, pp.183–187.
- Domfeh, K.A. (2004) 'Managing the environment in a decade of administrative reforms in Ghana', *International Journal of Public Sector Management*, Vol. 17, No. 7, pp.606–620.
- Domfeh, K.A. and Bawole, J.N. (2009) 'Localising and sustaining poverty reduction: experiences from Ghana', *Management of Environmental Quality: An International Journal*, Vol. 20, No. 5, pp.490–505.

- European Union (EU) (1993) 'Towards sustainability: a European community programme of policy and action in relation to the environment and sustainable development', Commission of the European Communities, Brussels, available at <http://impel.eu/wp-content/uploads/2010/01/Fifth-European-Community-Envrioment-Action-Programme.pdf> (accessed on 7 February 2010).
- Food and Agriculture Organisation (FAO) (2001) *Forestry Outlook Study for Africa (FOSA)*, Country Report, pp.2–34, Ghana, FAO, Rome.
- Ghana AIDS Commission (GAC) (2010) 'Ghana's progress report on the United Nations General Assembly Special Session (UNGASS) declaration of commitment on HIV and AIDS', available at [http://www.unaids.org/en/dataanalysis/monitoringcountryprogress/2010progressreportsubmittedbycountries/ghana\\_2010\\_country\\_progress\\_report\\_en.pdf](http://www.unaids.org/en/dataanalysis/monitoringcountryprogress/2010progressreportsubmittedbycountries/ghana_2010_country_progress_report_en.pdf) (accessed on 5 February 2010).
- Ghana Energy Commission (GEC) (2010) 'Energy outlook for Ghana', available at <http://new.energycom.gov.gh/pgs/linksinfo.php?recordID=7> (accessed on 5 February 2010).
- Ghana Health Service (GHS) (2009) 'The health sector in Ghana: facts and figures', available at <http://www.ghanahealthservice.org/includes/upload/publications/Facts%20and%20Figures%202009.pdf> (accessed on 5 February 2011).
- Ghana Statistical Service (GSS) (2008) 'Ghana living standards survey report of the fifth round (GLSS 5)', Ghana Statistical Service, Accra, available at [http://www.statsghana.gov.gh/docfiles/glss5\\_report.pdf](http://www.statsghana.gov.gh/docfiles/glss5_report.pdf) (accessed on 5 February, 2011).
- Ghana Statistical Service (GSS) (2011) '2010 population and housing census', February, Provisional results, available at <http://www.ghana.gov.gh/census/phc2010.pdf> (accessed on 5 February 2011).
- Holmén, H. (2001) 'The unsustainability of development', *International Journal of Economic Development*, Vol. 3, No. 1, pp.2–25.
- International Monetary Fund (IMF) (2009) 'Ghana: poverty reduction strategy paper – 2006 annual progress report IMF Country Report No. 09/237', available at <http://www.imf.org/external/pubs/ft/scr/2009/cr09237.pdf> (accessed on 5 February 2011).
- Jepson, E. (2004) 'Human nature and sustainable development: a strategic challenge for planners', *Journal of Planning Literature*, Vol. 19, No. 1, pp.3–15.
- Larbi, E. (2006) *Sanitation in Ghana: The Constraints and On-going Efforts to Improve Sanitation*, pp.1–6, DANIDA, Accra.
- Lutz, W., Warren, S. and Sergei, S. (2001) 'The end of world population growth', *Nature*, Vol. 412, No. 6846, pp.543–545.
- Maslow, A. (1954) *Motivation and Personality*, 35p, Harper & Row, New York.
- Ministry of Local Government and Rural Development (MLGRD) (2010) 'Activities of the Environmental Health and Sanitation Directorate and effects of climate change', Paper presented at the *Mole XXI Conference*, 20–23 July 2010, Accra Ghana, available at [http://www.ghana.watsan.net/redir/content/.../965/.../EHSD%20MOLE\\_PPT.pdf](http://www.ghana.watsan.net/redir/content/.../965/.../EHSD%20MOLE_PPT.pdf) (accessed on 27 March 2010).
- National Development Planning Commission (NDPC) (2010) 'Ghana 2008: Ghana Millennium Development Goals Report', UNDP, available at [http://www.undp.org/africa/documents/mdg/ghana\\_april2010.pdf](http://www.undp.org/africa/documents/mdg/ghana_april2010.pdf) (accessed on 15 December 2010).
- Opschoor, J.B. (2007) 'Environment and poverty: perspectives, proposition and policies', pp.1–38, The Institute of Social Studies, Netherlands, Working paper, available at <http://adlib.iss.nl/adlib/uploads/wp/wp437.pdf> (12 March 2010).
- Organisation for Economic Co-operation and Development (OECD) (2007) 'African Economic Outlook 2007: Ghana', available at <http://www.oecd.org/dataoecd/26/51/38562673.pdf> (accessed on 5 February 2010).
- Ornat, L.A. (1996) 'Strategies for sustainability: Latin America', London, Earthscan in association with IUCN, available at <http://www.iucn.org/themes/ssp/lastrategies.pdf> (accessed on 5 February 2010).

- Pezzey, J. (1989) 'Economic analysis of sustainable growth and sustainable development', Working Paper 15, Environment Department, World Bank.
- Sen, A. (2006) *Environment and Poverty: One World or Two*, pp.2–20, Institute for Sustainable Development and International Relations, Bangalore, India.
- Siaw, D.E.K.A. (2001) 'State of forest genetic resources in Ghana', FAO Forest Resources Division Working Paper FGR/17E.
- UN (1993) *Report of the United Nations Conference on Environment and Development*, United Nations, New York.
- UN (2007) 'World sanitation brief', News ID, available at <http://www.un.org/apps/news/story.asp> (accessed on 14 December 2010).
- UNCED (1992) *Earth Summit '92*, Regency Press, London.
- UNDP (2004) 'Frameworks and strategies for sustainable development', *Practice Note*, UNDP, available at <http://genderarabstates.org/documentdetails.php?id=14&sid=43&docid=161> (accessed on 15 December 2010).
- UNESCO (2006a) 'Framework for the UN international implementation scheme', UN Decade of Education for Sustainable Development, available at <http://unesdoc.unesco.org/images/0014/001486/148654e.pdf> (accessed on 15 December 2010).
- UNESCO (2006b) The 2nd UN World Water Development Report: 'Water, a shared responsibility', available at [http://www.unesco.org/water/wwap/wwdr/wwdr2/table\\_contents.shtml](http://www.unesco.org/water/wwap/wwdr/wwdr2/table_contents.shtml) (accessed on 15 December 2010).
- United Nations Environment Programme (UNEP) (2002) 'Integrating environment and development: 1972–2002', available at <http://www.unep.org/geo/geo3/pdfs/Chapter1.pdf> (accessed on 15 December 2010).
- World Commission on Sustainable Development (WCED) (1987) *Our Common Future*, Oxford University Press, Oxford.
- World Health Organization (WHO) (2000) 'Global water supply and sanitation assessment 2000 report', available at [http://www.who.int/water\\_sanitation\\_health/Globassessment/GlobalTOC.htm](http://www.who.int/water_sanitation_health/Globassessment/GlobalTOC.htm) (accessed on 5 February 2010).
- World Health Organization (WHO) (2002) 'WHO country cooperation strategy: Ghana (2002–2005)', WHO Regional Office for Africa, Brazzaville.