

THE CONVENTION ON BIOLOGICAL DIVERSITY AND ECOLOGICAL PROTECTION-RELATED LAWS AND POLICIES IN GHANA

Thomas Prehi Botchway¹

ABSTRACT

This study sets out to examine the implementation of the Convention on Biological Diversity (CBD) in Ghana. A key objective of the study was to understand how the country has attempted to achieve sustainable development while reducing the risk to biodiversity and environmental pollution given its abundant natural resources. In an effort to achieve this and other related objectives of the study, the researcher adopted a qualitative approach to research which enabled him to gather relevant information in non-numerical format. The study consequently finds that though the country has introduced several legislations and policies to ensure ecological protection, several challenges still remain. Indeed, in Ghana today, attempting to ensure the functionality, orderliness and the usefulness of ecological protection policies such as those aimed at the effective implementation of the CBD necessarily requires that such policies have firm legitimacy among the local norms; legality alone is not enough. It is in view of this that the study advocates for a *balanced obligation*.

Keywords: Convention on Biological Diversity, environmental protection, sustainable development, Ghana

INTRODUCTION

Ghana, a country located along the Gulf of Guinea and Atlantic Ocean, in the subregion of West Africa, has an area of approximately 239,000 square kilometers (23.9 million ha) and can be divided into six main agro-ecological zones namely: coastal savanna, rain forest, deciduous forest, transition, Guinea savanna and Sudan savanna. The annual rainfall ranges from a low of 800 millimeters in the coastal savanna to a high of 2200 millimeters in the rain forest. The country also

¹ PhD (International Law), MPhil (Political Science), BA (Political Science). Lecturer, Department of Political Science Education, University of Education, Winneba, Ghana. E-mail: tpbotchway@uew.edu.gh/ abeikuprehi@yahoo.com.

has a 560 km coastline which runs from the east to the west and is predominantly made up of beaches and several lagoons.²

The Ghanaian economy depends principally on a number of traditional exports such as minerals (including gold, diamonds, manganese, bauxite, and iron ore), cocoa, timber and electricity (which has been seriously affected due the ongoing national energy crisis). There are also deposits of tin, titanium and impure graphite. Moreover, periodic occurrences of lead, copper, molybdenum, tungsten, niobium, barytes and asbestos are also known. In addition, the presence of uranium, cassiterite, platinum, molybdenite and tantalite has been reported with large deposits of some industrial minerals also known in the country. The country also deals in some non-traditional exports (NTEs) which include pineapples, yams, tuna, shrimp and lobster, salt, wood products, rubber and handicrafts. In recent years, petroleum, and oil products (crude oil) have been discovered in commercial quantities and are being exported since the last quarter of 2010.³

The United Nations Conference on Trade and Development (UNCTAD) in the year 1995 argued that the mounting population pressure on Ghana's natural resource base and the absence of incentives for prudent and sustainable management of these resources combined to fuel an accelerating degradation of the environment – both in terms of natural and man-made. The said report was made available to the Ghanaian government. The question thus remains as to whether the State has been able to mitigate these challenges.

The introduction of economic reforms and the structural adjustment programmes in Ghana during the mid-1980s has impacted positively on the country as the programmes laid the “foundations for sustainable growth and poverty reduction”.⁴

² Jan Bossart, E. Opuni-Frimpong, S. Kudaar and E. Nkrumah, ‘Richness, abundance, and complementarity of fruit-feeding butterfly species in relict sacred forests and forest reserves of Ghana’ [2006] *Biodiversity and Conservation* 333; Luc Hens and Emmanuel K. Boon, ‘Institutional, Legal and Economic Instruments in Ghana's Environmental Policy’ [1999] *Environmental Management* 337; UNCTAD, *Natural Resources Management and Sustainable Development: the Case of the Gold Sector in Ghana* (United Nations Conference on Trade and Development (UNCTAD) 1995).

³ National Development Planning Commission (NDPC), *The Implementation of the Ghana Shared Growth and Development Agenda (GSGDA), 2010-2013: 2013 Annual Progress Report* (National Development Planning Commission 2014); Thomas Prehi Botchway, ‘Implementing effective environmental policies for sustainable development: Insight into the implementation of the CBD in Ghana’ (2021) *Cogent Social Sciences*.

⁴ World Bank, *Ghana: Country Environmental Analysis* (World Bank 2006, p. 14).

Over the last few years, as more capital has been appropriated for achieving growth in Ghana, the need also arose to utilize the country's rich natural resources. This growth according to the World Bank (2006) Country Environmental Analysis (CEA) consequently led to an increase in larger export volumes of cocoa, timber, and other minerals in an unsustainable manner. This in turn leads, not only to reduction in output from the sectors involved (including revenues), but also "jeopardizes future growth and human development potential".⁵ The CEA posits that sustainable growth in resource-based economies also requires that living resources must be exploited at a sustainable rate- a condition that according to the report was missing in Ghana.

The World Bank CEA on Ghana in 2006 also stated that "from a broader view, a measure of Ghana's productive base in terms of wealth that includes not only growth in GDP, but also human, natural, and social capital, makes Ghana's recent economic growth achievements look much less impressive and much less sustainable",⁶ thus painting a bleak image about the country's future, especially if much efforts were not put in place to remedy the situation. This has been confirmed by a recent study that has shown that the country (particularly the Western Region of Ghana) has a highly degraded biodiversity hotspot.⁷

Ghana became a Party to the Convention on Biological Diversity by ratification on November 27, 1994. However, long before the coming into force of the CBD, the country had been implementing several policies and initiatives that are always aimed at conserving biological diversity. For instance, in 1985, the Government of Ghana entered into an agreement with the Royal Society for the Protection of Birds-UK and BirdLife International to protect sea- and shorebirds (Roseate Tern) and their wetland habitats in the country and in order to implement this agreement, the Save the Seashore Bird Project-Ghana (SSBP-G) was set up to monitor bird populations and carry out other conservation related activities along the coast of Ghana.⁸ The creation of the SSBP-G and its related activities eventually became the basis for Ghana becoming signatory to the Convention of Wetlands of International Importance in 1988. It was within this same period the country

⁵ Ibid. (p. 14).

⁶ Ibid. (p. 17).

⁷ Kwame Oppong Hackman and Peng Gong, 'Biodiversity estimation of the western region of Ghana using arthropod mean morphospecies abundance' [2017] *Biodiversity and Conservation* 2083.

⁸ Chris Gordon, Yaa Ntiama-Baidu and James M. Ryan, 'The Muni-Pomadze Ramsar site' [2000] *Biodiversity and Conservation* 447.

introduced the Environmental Action Plan which was spearheaded by the Environmental Protection Council (now Environmental Protection Agency [EPA]).

Consequently, in terms of the implementation and cooperation on international agreements, studies have shown that the country is “a very reliable partner in international conventions” and that even prior to the Stockholm Conference, Ghana had already “participated and signed at least fifteen international conventions and treaties on environmental issues.” These include the country’s signing of the “International Plant Protection Convention of 1951” and the “Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxic Weapons and their Destruction in 1972”.⁹

According to the findings of the study conducted by Gordon, Ntiamao-Baidu and Ryan (2000), even in the face of all the attempts by policy makers to implement the CBD and other environmentally friendly treaties, at the time, “all the five Ramsar sites in coastal Ghana are threatened by pollution from domestic waste, habitat destruction from industrial and settlement developments as well as over-exploitation of wetland resources, mainly fisheries”.¹⁰ But this was some 21 years ago. This study will therefore elucidate what the current situation is.

Over the years, Ghana has been introducing several environmental policies that aim to balance economic development and the conservation of biodiversity. Among these efforts are the various attempts made in adopting sectoral plans as well as the enactment and introduction specific rules, regulations, and legislations that aims at giving effect to the country’s commitments under various MEAs it has acceded to. These efforts which are targeted at meeting the requirements of the CBD are also in line with both Principle 4 and Agenda 21 of Rio, both of which encourages the adoption of strategies and measures that promotes sustainable and responsible development.

⁹ Luc Hens and Emmanuel K. Boon, ‘Institutional, Legal and Economic Instruments in Ghana’s Environmental Policy’ [1999, p. 27] *Environmental Management* 337.

¹⁰ Gordon, Ntiamao-Baidu and Ryan n.7 (p. 462).

RESEARCH OBJECTIVES

The study has two main objectives namely:

1. To ascertain and analyse the laws and regulations that have been introduced in Ghana in order to enhance the implementation of the Convention on Biological Diversity and to promote ecological protection.
2. To evaluate the measures that have been put in place to check the menace of biodiversity degradation in Ghana.

RESEARCH METHOD

This study relies on qualitative data. The study consequently analyses the available laws and policy guidelines related to environmental protection and the implementation of ecologically-friendly related policies in Ghana. These legislations and policies are compared with the extant literature to ascertain the practice elsewhere. Through careful analyses of these legislations and policy guidelines, thematic areas are generated. Thus, through the effective organisation of raw data, and the search for meaning through thematic analysis and interpretation¹¹, the study explores the efforts that have been made over the years to ensure the implementation of the CBD and sustainable development in Ghana.

THE NATURAL RESOURCES MANAGEMENT PROGRAMME (NRMP), PROTECTED AREAS MANAGEMENT AND WILDLIFE CONSERVATION PROJECT (PAMWCP, 1997-1998) AND THE PROTECTED AREAS DEVELOPMENT PROGRAMME (PADP I AND II, 1997-2010)

The NRMP was a ten-year multi-donor three-phased project that became operational in September, 1999. The organizations that funded the project include the African Development Bank (AfDB), Danish International Development Agency (DANIDA), EU, GEF, Japan International Cooperation Agency (JICA), WB-IDA, etc. It focused on building an institutional framework as well as developing collaborative natural resource management systems that ensures sustainable development patterns. The protection, rehabilitation and sustainable

¹¹ Zina O'Leary, *The Essential Guide to Doing Your Research Project* (3rd edn, SAGE Publications Ltd 2017).

management of the country's land, forest and wildlife resources were at the core of the NRMP.¹²

The Protected Areas Management and Wildlife Conservation Project (PAMWCP) was a World Bank funded project that undertook a strategic review of the country's wildlife sector and consequently developed an all-inclusive funding scheme (an action plan) for investment in the wildlife sector. Key among its policy guidelines was the plan for community conservation of wildlife resources both within and outside protected areas.¹³ Also through the Ghana Dedicated Grant Mechanism for Local Communities project (G-DGM), Forest Investment Project (FIP) and other related projects, the World Bank and its related agencies have supported several communities in Ghana in their efforts at biodiversity conservation and sustainable development.¹⁴

The European Union funded PADP (I and II) targeted effective conservation in the Bia and Ankasa protected areas. It promoted the concept of Community Resource Management Areas (CREMA) and supported communities in undertaking wildlife conservation in their own designed areas. The CREMA was introduced by the Wildlife Division of the Forestry Commission (FC) in the early 1990s. The Government of Ghana planned to ensure that a minimum of 80 per cent of the potential off-reserve zones in the country's savanna zones were covered by the CREMA project by the year 2020. This target has however not been achieved as at the time of this study.

Moreover, in order to ensure that only legally harvested timber is exported, particularly to the EU from Ghana; the country has agreed and subsequently entered into a bilateral Forest Law Enforcement, Governance and Trade (FLEGT) under the Voluntary Partnership Agreement (VPA) with the EU. These VPAs comprises commitments and action from both parties to halt trade in illegal timber. Thus, there is the introduction of a license scheme to authenticate the legality of timber. The agreements also promote better enforcement of forest law while at the same time promoting an inclusive approach involving civil society and the private sector.¹⁵ The PADPs together with the VPA (which was signed in November 2009) have all in one way or the other enhanced the implementation of the major

¹² Government of Ghana (GoG), *National Biodiversity Strategy and Action Plan* (Ministry of Environment, Science, Technology and Innovation (MESTI) 2016).

¹³ Ibid.

¹⁴ World Bank n.3.

¹⁵ European Communities, *The Convention on Biological Diversity Implementation in the European Union* (Update 2008, European Commission 2008).

multilateral environmental agreements such as the Convention on Biological Diversity (CBD).¹⁶ For instance, through the VPA, the country has been able to develop a monitoring system that aids in the assessment of the impact of implementation of environmental policies on some key areas such as revenue generation, people's livelihood, forest governance and condition, as well as forest management and timber market performance and structure.¹⁷

Marine Biodiversity-Related Legislations and the Ghana Shared Growth and Development Agenda (GSGDA, 2010-2013)

Upon the discovery of oil and gas in commercial quantities and in order to plan effectively for the related problems associated with crude oil extraction, the Ghana Shared Growth and Development Agenda (GSGDA) was put together to mitigate both foreseeable and unforeseeable problems. It was also meant for guiding the efficient management of the Ghanaian economy and the enhancement of diversification and sustainable development. The GSGDA was also in response to addressing the 2008 macroeconomic challenges which was due partly to the global economic difficulties.¹⁸

Whereas a key objective of the GSGDA was the promotion of the use of science, technology and innovation in accelerating the modernization of agriculture, and by so doing increase productivity while enhancing job creation and maintaining food security, the project promoted good agricultural practices that have positive implications for sustainable development and biodiversity conservation. The project also ensured that the Ghanaian oil and gas industry's practices were in conformity with international standards of environmental sustainability and that the extraction of oil and gas did not affect marine life and other biodiversities negatively. It consequently targets the acceleration of creating employment and the generation of income for poverty alleviation and shared growth through the

¹⁶ See Thomas Prehi Botchway, 'Implementing Effective Environmental Policies for Sustainable Development: Insight into the Implementation of the CBD in Ghana' (2021) Cogent Social Sciences; Ministry of Environment, Science, Technology & Innovation (MESTI), *CBD Fifth National Report - Ghana*. (MESTI 2015).

¹⁷ Forestry Commission of Ghana (FC), 'Ghana FLEGT VPA' (*The Forestry Commission*, 2018) <<http://fcghana.org/fctvd/index.php/about-ghana-s-flegt-vpa/detail-history>> accessed 18 November 2018.

¹⁸ Institute of Statistical, Social & Economic Research (ISSER), *Policies and Options for Ghana's Economic Development* (K Ewusi ed, 3rd edn, Institute of Statistical, Social & Economic Research (ISSER) 2013); Government of Ghana (GoG), *Medium-Term National Development Policy Framework: Ghana Shared Growth and Development Agenda (GSGDA), 2010-2013* (National Development Planning Commission (NDPC) 2010).

promotion of eco-tourism while at the same time meeting goal 7 of the Millennium Development Goals (MDG 7) – ensuring environmental sustainability and the reversal of loss of natural resources (ISSER, 2013; USAID/Ghana, 2012; National Development Planning Commission (NDPC), 2014; NDPC, 2011; International Monetary Fund (IMF), 2012; GoG, 2010).¹⁹ In a similar manner, the vision of the GSGDA has been reflected in Section 3(b) of the Millennium Development Authority Act, 2006 (Act 702) which mandates the Authority to “take necessary steps to ensure the reduction of poverty through modernisation of agriculture.”

Under the GSGDA, efforts have been made to develop a new technique of extracting gold without the use of mercury for small-scale miners. This single development in the small-scale mining industry goes a long way to reduce the pollution and environmental hazards that usually accompanies their operations. It also has positive ramification for the protection of both marine and forest biodiversity. Moreover, in order to control and effectively manage oil spillage that is usually associated with crude oil exploration and extraction, and their negative impact on biodiversity, the State has established the Oil Spill Response Centre at the EPA. In addition, there are several laws relating to oil extraction and eventual spillage and some of these laws actually predates the years of the country’s discovery of oil in commercial quantities.²⁰

The Ghana National Aquaculture Development Plan has also been implemented to ensure sustainability in fishing and marine biodiversity. Thus, this plan promotes the transformation of aquacultural development and also enhances domestic fish production while reducing indiscriminate fishing practices and their negative

¹⁹ ISSER, *Policies and Options for Ghana's Economic Development* (K Ewusi ed, 3rd edn, ISSER 2013); USAID/Ghana, *USAID/Ghana Country Development Cooperation Strategy 2013-2017* (USAID/Ghana 2012); NDPC, *The Implementation of the Ghana Shared Growth and Development Agenda (GSGDA)*, 2010-2013: 2010 Annual Progress Report (NDPC 2011); NDPC, *The Implementation of the Ghana Shared Growth and Development Agenda (GSGDA)*, 2010-2013: 2013 Annual Progress Report (NDPC 2014); IMF, *Ghana: Poverty Reduction Strategy Paper* (IMF 2012); Government of Ghana (GoG), *Medium-Term National Development Policy Framework: Ghana Shared Growth and Development Agenda (GSGDA)*, 2010-2013 (National Development Planning Commission (NDPC) 2010).

²⁰ See for example the Oil in Navigable Waters Act, 1964 (Act 235); Ghana National Petroleum Corporation, 1983 (P.N.D.C.L. 64); Petroleum (Exploration and Production) Law, 1984 (P.N.D.C.L. 84).

consequences for marine biodiversity.²¹ In addition, in order to regulate the fishing industry and marine biodiversity, Sections (16) and (17) of the 1991 Fisheries Law (PNDCL 265) respectively prohibit fishing in some specified zones and declares closed seasons for fishing. These provisions are also clarified further in Sections (84-88) of the 2002 Fisheries Act. Section (35) of the Law also prohibits the use of explosives for fishing and prescribes appropriate punishment for offenders including fines, “forfeiture of the catch and the substance or matter used in the commission of the offence”, and imprisonment (not exceeding three years). The 1991 Fisheries Law is given a further boost by the enactment of the Fisheries Commission Act, 1993 (Act 457). This Commission is mandated by the Act to be responsible for the regulation and management of the country’s fishery resources and to coordinate relevant policies pertaining to the sector. It also has the mandate of fostering the sector’s international cooperation and collaboration for the country’s benefit.

There is also the 2002 Fisheries Act, (Act 625) which aims to consolidate with amendments the various laws on fisheries. This Act (625) creates a new Fisheries Commission with an expanded mandate and provides for “the regulation and management of fisheries” and “the development of the fishing industry and the sustainable exploitation of fishery resources” and their “connected matters” in the country. As a matter of fact, virtually all the sixteen functions of the Fisheries Commission as identified under Section (2) of the Act are direct reflections of the key targets and objectives of the CBD, particularly those regarding marine biodiversity and their conservation, management and use. For instance, whereas subsection 2(c) calls for ensuring “the proper conservation of the fishery resources through the prevention of overfishing”, subsection 2(h) promotes the carrying out of “research and survey work for the assessment of stock of the fisheries resources.”

The Act (625) also establishes the Fisheries Development Fund which among other things is meant for “the promotion and development of fisheries in the country”, the provision of “assistance to small scale fishery co-operative enterprises”, the promotion of “research and studies of the fishing industry”, etc. The Act besides mandates the preparation of a fishery plan whose content must be based on international best practices and in tandem with relevant MEAs such as the CBD. Section (45) of the Act also authorises the sector Minister to consult and cooperate

²¹ National Development Planning Commission (NDPC), *The Implementation of the Ghana Shared Growth and Development Agenda (GSGDA)*, 2010-2013: 2013 Annual Progress Report (National Development Planning Commission 2014).

with foreign governments and States on issues pertaining to fisheries management and ensure “practicable harmonisation” of policies, especially where such cooperation and harmonisation are “necessary to sustain the growth of industrial and artisanal fishing.”

Sections (89) and (90) of the Act specifically names marine biodiversity that should not be fished for whatsoever reason and demands that such creatures to be immediately returned to the sea, river or lake when they are accidentally caught. The Act further prescribes punishment and fines for offenders who refuse to return them in this regard. Section 91 mandates the creation of protected marine areas or reserves whose encroachment warrants punishment and fines. In addition, polluting water bodies is regarded by Section 92 as a serious offense since such an action “adversely affects the habitat or health of the fish or other living aquatic resource.”

The Fisheries Act, 2002 (Act 625) has been amended by the Fisheries (Amendment) Act, 2014 (Act 880) in order “to give effect to international conservation and management obligations, to empower the Minister to make Regulations to combat Illegal, Unreported and Unregulated fishing in accordance with the international obligations of the Republic and to provide for related matters.”²² The country has also introduced the Fisheries (Amendment) Regulations, 2015 (LI 2217) which amends different aspects of the country’s existing fisheries laws. However such changes do not have any negative implications for the content of the Acts and issues discussed above.

Prior to the above elaborated marine biodiversity-related legislations, two years after the ratification of the CBD, the Parliament of Ghana enacted the Water Resources Commission Act, 1996 (Act 522). This Act established the Commission that is “responsible for the regulation and management of the utilisation of water resources, and for the co-ordination of any policy in relation to them” (Section 2[1]). This Act among other things enhances the coordination and regulation of the country’s water resources and proscribes punishment for individuals and groups that pollute water resources. The Act also gives the sector Minister the authority to declare through an executive instrument an area to be a “protected catchment area” when s/he is “satisfied that special measures are necessary for the protection of water resources in or derived from an area” (Section 31). Moreover, Section 32

²² Introduction to the Fisheries (Amendment) Act, 2014 (Act 880).

of the Act also empowers the Commission to develop appropriate schemes for water resources in protected areas.

In the same year, Parliament enacted the Pesticides Control and Management Act, 1996 (Act 528) which regulates the manufacturing, distribution, advertisement, as well as the importation and export, and the selling and usage of pesticides within Ghana. The Act stipulates that without the registration of a pesticide by the EPA (which is to be done in accordance with the Act), no person shall use, sell, manufacture, import, export, and advertise any such product.

Among other things, the Act establishes a Pesticides Technical Committee that has been vested with the authority to carry out several environmental-related responsibilities. Key among such responsibilities is the investigation of “complaints or injury to human beings and animals, or damage to land and pollution of water bodies resulting from the use of pesticides” (Section 31[d]). This section also correlates with Section (15) of the Environmental Protection Agency Act (Act 490) which mandates the EPA’s Board to appoint environment protection inspectors to inspect and report on various environmental regulations and their related biodiversity issues. Its provisions consequently have positive effect on biological diversity conservation and protection and the CBD for that matter since the eventual danger that may result from the usage of such pesticides are been effectively controlled.

The provisions of the Pesticides Control and Management Act is actually a reflection of the Part Two of the Environmental Protection Agency Act, 1994 (Act 490) which gives further details on the matter. The responsibilities of the EPA are virtually in line of the various targets of the CBD. For instance, whereas Section 2 (m) of the Act indicates that the EPA has the responsibility “to initiate and pursue formal and non-formal education programmes for the creation of public awareness of the environment and its importance to the economic and social life of the country”, Article 13 of the CBD calls for the implementation of policies and educational programmes aimed at the propagation of the sustainable development and environmental awareness among the public. Moreover, as required by Article 9 of the CBD, the EPA’s mandate ensures that necessary efforts are made to promote the development of a culture and society that is built around environmental values.

Section 2(i) of the Ghana Maritime Authority Act, 2002 (Act 630) also demands that the Ghana Maritime Authority (GMA) collaborates with the relevant public institutions and agencies to ensure “the prevention of marine source pollution,

protection of the marine environment and response to marine environment incidents.” In a similar manner, in order to protect the marine environment and biodiversity, the Ghana Shipping Act, 2003 (Act 645) Section 333(2) requires that upon discovery that “dangerous goods, or goods that in the opinion of the master or owner of the ship are dangerous goods, have been sent on board a ship without the marking or the written notice described” by the Act in Section 332, “the master or owner of the ship may dispose of the goods, together with the package or container in a manner that will not cause damage to the environment.”

Curbing the Mining Menace, Restoration of Degraded Forests, Ecological Restoration and Related Laws

The Section 18(1) of the Minerals and Mining Act, 2006 (Act 703) requires that aside the possession of a mineral right, corporations must also obtain all the necessary approvals and permits from the Forestry Commission and the EPA “for the protection of natural resources, public health and the environment.” This Act has further been given much clarity and details by the enactment of the Minerals and Mining (General) Regulations, 2012 (L.I. 2173) and the Minerals and Mining (Explosives) Regulations, 2012 (L.I. 2177) which spell out that mining should be done in manner that is not detrimental to the environment and biodiversity.

At the same time, these legislative instruments call for the training of more Ghanaians in the mining industry as well as the patronage of local products to boost the economy. This implies safety for biodiversity in the long run and sustainable development of the Ghanaian economy. Similarly, in an effort to ensure the economic wellbeing of the Ghanaian citizen, Section 50 (1) of the Minerals and Mining Act, 2006 demands the “pursuance of a localization policy.” This policy implies that it is mandatory for corporations and entities holding a mining lease to submit to the Minerals Commission “a detailed programme for the recruitment and training of Ghanaian personnel.” As a matter of fact, subsection (2) makes the localization policy²³ “a condition for the grant of a mining lease.” This policy gives a clear indication of the efforts to reduce poverty while ensuring environmental sustainability and also meeting an international obligation.

One must also reiterate that Ghana’s mining sector contributes immensely to the country’s economy. It accounts for more than 6% of GDP and in excess of 40% to export earnings with gold contributing about 95% by the end of the year 2010 and

²³ Subsection (3) of Section 50: For the purposes of subsection (1) “localization” means a training programme designed towards the eventual replacement of expatriate personnel by Ghanaian personnel.

2013.²⁴ Interestingly, thousands of Ghanaians (and even foreigners) are engaged in small scale illegal mining which has negative implications for the implementation of the CBD though their activities also contribute substantially to the country's export earnings. Eventually, curbing their activities demand providing them with an alternative livelihood project (ALP). Consequently, the Government of Ghana has introduced some alternative livelihood projects which are believed to have created "about 7,500 direct jobs" thus reducing environmental degradation, biodiversity loss, and poverty at the same time.²⁵ The ALP included the production of 450,000 oil palm seedlings for planting as well as the establishment of about 7,337.50 acres of oil palm plantation in the year 2017 in mining communities. The Government of Ghana promises to undertake and expand such ALPs in subsequent years across the country.²⁶

Through the Council for Scientific and Industrial Research (CSIR), the country has completed a series of projects that have ensured the restoration of some degraded forest areas within the country, for instance several indigenous tree species have been planted in the Afram headwaters forest reserve to enhance biodiversity conservation.²⁷ The CSIR in the year 2017 raised 120,000 seedlings of bamboo for the EPA to restore degraded lands around water bodies in the northern part of the country.²⁸ The CSIR also has plans to further promote appropriate environmental management schemes as well as green technology through the development of adoptive strategies aimed at combating the effect of climate change and its related problems for biodiversity. Such schemes primarily target rural communities and hope to mitigate unsustainable farming practices through the promotion of "smart agriculture".²⁹ In addition, laws have been

²⁴ National Development Planning Commission (NDPC), *The Implementation of the Ghana Shared Growth and Development Agenda (GSGDA), 2010-2013: 2010 Annual Progress Report* (National Development Planning Commission 2011); National Development Planning Commission (NDPC), *The Implementation of the Ghana Shared Growth and Development Agenda (GSGDA), 2010-2013: 2013 Annual Progress Report* (National Development Planning Commission 2014).

²⁵ See also Thomas Prehi Botchway and Ishmael K. Hlovor, 'Mitigating the Challenges Related to the Implementation of the Convention on Biological Diversity in Ghana' (2019), *Journal of Sustainable Development* 12.

²⁶ Government of Ghana (GoG), *The 2018 Budget Statement and Economic Policy of Government: "Putting Ghana Back to Work"* (Ministry of Finance and Economic Planning 2017, p. 85).

²⁷ NDPC n. 23.

²⁸ *Ibid.*

²⁹ *Ibid.* (p. 91).

enacted to establish various funds for specific biodiversity and environmental management policies.³⁰

Moreover, through the Ghana Environmental Management Programme (GEMP), the country has embarked on activities that have consequently spearheaded the reversal of land degradation and soil fertility loss, as well as erosion and the loss of vegetative land cover, particularly in the northern parts of the country.³¹ The country's Parliament has also enacted the *Plants and Fertilizer Act, 2010 (Act 803)* which seeks to protect plants and seeds, and regulate the usage of fertilizer in the country. The Act also facilitates and regulates the import and export of plants as well as the introduction and spread of plant pests. Issues regarding phytosanitary certification and inspections are also regulated by this Act.

All these activities and regulations have positive implications for the effective implementation of the CBD as they ensure sustainable development and the conservation of biological diversity. It must however be noted that even before independence in 1957, Ghana already had in place relevant policies and laws that governed the use and conservation of land. An example is the Land Planning and Soil Conservation Act, 1953 (No. 32) and its Amendment (the Land Planning and Soil Conservation (Amendment) Act, 1957 [No. 35]). This pre-independence Act sought to “provide for the better utilisation of land in designated areas by land planning and soil conservation” – a process which automatically implied the management and conservation of biodiversity and sustainable development.

A study conducted by the World Bank in 2006 revealed that the Volta River and Lake- the water body that provides several ecosystem services and serves as the source for “a rich biodiversity and other environmental goods” for the country was facing persistent damages due to “severe environmental degradation in the form of lake level fluctuations, water scarcity, nitrification, and siltation mainly from watershed degradation”.³² This situation and others of its nature prompted the State and its development partners to find ways of mitigating such ecological problems. For instance, work has been done to create and manage a 10.2km buffer zone in the White Volta basin for purposes of protecting, conserving and sustaining the

³⁰ See the Forest Plantation Development Fund Act, 2000 (ACT 583); Section 6 of the Forest Plantation Development Fund (Amendment) Act, 2002 (Act 623); the Fisheries Development Fund (Section 17 of the Fisheries Commission Act, 1993); the National Environment Fund (Sections 16-19 of the Environmental Protection Agency Act, 1994); the Farmers' Welfare Fund (Section 27 of the Ghana Cocoa Board Law, 1984 [PNDCL 81]), etc.

³¹ *Ibid.* n.25.

³² *Ibid.* n.3 (p. 114).

basin's "fresh water resources." Similarly, the Korle Lagoon Ecological Restoration Project (KLERP) has been one of the major projects that aim at protecting marine biodiversity, especially within the country's capital – Accra.

In addition, the Coastal Development Project (CDP) has been implemented to enhance the maintenance of sanitation and the restoration of biodiversity in the coastal communities across the country.³³ It is important that mention must also be made of the 1999 Wetland Management (Ramsar Sites) Regulations which officially established the country's six Ramsar Sites in accordance with the 1971 Convention of Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention). The sites are the Muni-Pomadze, Densu Delta, Sakumo, Songor, Keta Lagoon Complex, and the Owabi Wildlife Sanctuary. These sites have been very much influential in the country's efforts at implementing the CBD due to the conservation and management practices employed in handling them. These are protected areas and apart from ecotourism and its related activities, all human activities are prohibited, thus enhancing biodiversity conservation and sustainable development.³⁴

GHANA'S 1992 CONSTITUTION AND SOME PROMINENT ENVIRONMENT-RELATED LEGISLATIONS

According to Article 36 (9) of the 1992 Constitution of Ghana, "the State shall take appropriate measures needed to protect and safeguard the national environment for posterity; and shall seek cooperation with other states and bodies for purposes of protecting the wider international environment for mankind." As a matter of fact, the 1992 Constitution of Ghana mandates the country's Parliament to regulate the exploration, extraction and use of natural resources by providing for "parliamentary ratification of contracts relating to the exploitation of natural resources."³⁵

³³ National Development Planning Commission (NDPC), *The Implementation of the Ghana Shared Growth and Development Agenda (GSGDA)*, 2010-2013: 2010 Annual Progress Report (National Development Planning Commission 2011).

³⁴ Sections 2-8 of the Wetland Management (Ramsar Sites) Regulations, 1999 declares "close seasons", designates "core areas", "areas for specific activities", outlines "proscribed" and "restricted" activities, and eventually details out offences and related punishments and fines.

³⁵ *Ibid.* n.3 (p. 42).

The country's Constitution, particularly Chapter 21 and other related articles, form the basis for elaborate laws and regulations pertaining to land ownership and the natural resources that are associated with them.

Environmental Assessment Regulation of Ghana, 1999 (Amended 2002)

With the implementation of the National Environmental Action Plan (NEAP) which eventually gave rise to the enactment of the Environmental Protection Agency Act (EPA) 1994 (Act 490), Ghana for the first time instituted a system of legal support aimed at ensuring the implementation of Environmental Assessment (EA). In addition, with the promulgation of the Environmental Impact Assessment (EIA) Procedures into the Environmental Assessment Regulations (LI 1652, 1999), the country went to the extra mile of consolidating EA application nationwide.³⁶

Thus, Ghana's Environment Impact Assessment (EIA) system was formally established in 1994 with the legislation the Environmental Protection Agency Act 1994, Act 490 and was given a further boost by the Environmental Assessment Regulations 1999 (L.I. 1652). Ghana's EIA key component focuses on policy framework, legislative instruments, administrative procedures, institutional capacities and responsibilities, as well as public consultation. Thus, the Environment Impact Assessment Regulation of Ghana was passed to give effect to the principle of environmental impact assessment – one of the principal concerns of the CBD.

According to the Regulation, no person shall commence or undertake any activity unless that activity has been registered with the EPA and that; the appropriate permit has also been issued. This is so especially under conditions where the activity is deemed to have any adverse effect on the environment or public health in general. Interestingly, Ghana's EIA Regulation, in order to curb pollution and destruction of biodiversity and the negative implications for the community has retrospective effect on activities which were in place before the commencement of the regulation.

Consequently, the EIA Regulations demands that before any major project commences there is the need to develop an "environmental impact statement" which shall address the "possible direct and indirect impact of the undertaking on the environment at the pre-construction, construction, operation, decommissioning

³⁶ Ministry of Lands & Natural Resources (MLNR), *Forestry Development Master Plan (2016-2036)*. (Ministry of Lands & Natural Resources 2016, p. 15 - 16).

and post-decommissioning phases...” (Section 14[1]) The section specifically demands among other things that the environmental impact statement must address questions pertaining to:

- (b) any direct ecological changes resulting from such pollutant concentrations as they relate to communities, habitats, flora and fauna;
- (c) alteration in ecological processes such as transfer of energy through food chains, decomposition and bio-accumulation which could affect any community, habitat or specie of flora or fauna;
- (d) ecological consequences of direct destruction of existing habitats from activities such as dumping of waste and vegetation clearance and fillings.

Interestingly, along the stringent measures aimed at environmental protection and biodiversity conservation, EIA also demands that every environment impact statement should also detail out the expected “direct or indirect employment generation” that would result from the project in question. This should also be accompanied by related estimation of immigration and its resultant demographic and cultural changes as well as likely conflict that may arise from immigration and tourism in the area under consideration. Furthermore, it is a must for the mining and other extractive industries to include reclamation plans in their environmental impact statement. In addition, appropriate compensations are to be paid for the disturbance of the land owner’s surface rights.³⁷

The point must also be noted that even after issuing an environmental impact certificate for a project, the EPA retains the right to “suspend” the permit or certificate “in the event of occurrence of fundamental changes in the environment due to natural causes before or during the implementation of the undertaking.” Under such circumstances, the initial report and plan must be “revised on the basis of the new environmental condition.” (Section 26[2])

The Biosafety Act, 2011 (Act 831) and the Biosafety (Management of Biotechnology) Regulations, 2007 (LI 1887)

According to Section 2 of the Act 831, the primary purpose of this Act is to “ensure an adequate level of protection in the field of safe development transfer, handling and use of genetically modified organisms resulting from biotechnology that may have an adverse effect on health and the environment” and to “establish a

³⁷ See Sections 73, 74, and 94 of the Minerals and Mining Act, 2006 (Act 703).

transparent and predictable process to review and make decisions on genetically modified organisms...” The Act consequently established two key institutions³⁸ that have direct influence on the implementation of the CBD in the country; the National Biosafety Authority (NBA) – tasked with the mandate of leading the regulatory system pertaining to the identification, handling, transportation and use of Genetically Modified Organisms (GMOs) in Ghana; and the Technical Advisory Committee (TAC) which is responsible for conducting scientific risk assessment on applications that are submitted to the Authority. The Authority and Committee, due to the nature of their work, liaise with several institutions and agencies in achieving their set goals. Among these institutions are the Ministry of Local Government and Rural Development, Veterinary Services Directorate, Ghana Standards Authority, EPA, etc.

The Act stipulates that without the written permission of the Authority, no person or entity within the country’s territory can conduct any experiment or activity involving the use of GMOs or their development, and neither can GMOs be introduced into the environment without doing same (Sections 11[1] and 12[1]). Similarly, the importation and export of GMOs, as well as the transiting of same, and their related issues to, from and through the country are all subject to the prior approval of the National Biosafety Authority.

Moreover, the Act also allows for the operations of regulatory agencies that have the responsibility of monitoring and reporting on the activities of institutions and organisations that apply for the use and experimentation with GMOs. In situations where a regulatory agency discovers that “significant new scientific information” indicates that previously permitted activities with GMOs in recent times might “adversely affect the environment or pose potential risks not previously known”, the information must be relayed to the Authority so as to introduce new and appropriate measures that would guarantee the “safe use” of the GMOs in question.³⁹ Furthermore, when it comes to the notice of a regulatory agency that an “unintentional or unapproved introduction” of GMOs into the environment has occurred, and that the GMOs introduction into the environment has the probability to “have an adverse effect on the environment” the regulatory agency shall “within

³⁸ Sections 3 and 27 respectively; Section 3 establishes the National Biosafety Authority with subsequent sections detailing its functions. Section 27 establishes the Technical Advisory Committee and requires the Board of Directors of the Authority to establish any other committees when the need arises. See also First Schedule of the Act, specifically Section (1).

³⁹ See section 31 of the Biosafety Act, 2011 (Act 831)

twenty four hours of having that knowledge, notify the Authority of the occurrence.”⁴⁰

The Act also mandates the Authority to appoint Biosafety inspectors who are responsible for verifying the authenticity, compliance, appropriate use of biotechnology and biosafety equipments and their relations to GMOs, and the environment as whole. All these rules and regulations, as well as the other policy guidelines and principles outlined in the country’s 2011 Biosafety Act and its related amendments are major steps for meeting the targets of the CBD. For instance, since public education, awareness and participation are key components of the CBD, the Biosafety Act makes it mandatory for the Authority to promote public awareness and participation as well as education relating to issues of biosafety. The Act consequently demands its publication in “as many languages as possible” while also calling for the periodic sensitization programmes such as seminars, workshops and public lectures. The study finds that most these policy recommendations have been duly followed.

Another key legal document that the Ghanaian State has adopted to address a major concern of the CBD is the Biosafety (Management of Biotechnology) Regulations, 2007 (LI 1887). This Regulation actually preceded the Biosafety Act of 2011 and lays the foundations of which the latter has been built. Among other important issues, the Regulation designates the National Biosafety Committee (NBC) as the National Focal Point (NFP) on biosafety and mandates it with the responsibility of liaising with the Secretariat of the CBD for the necessary administrative functions regarding the operations of the Cartagena Protocol on Biosafety. The Regulation also outlines the roles of different institutions and agencies and the respective roles in the implementation of biosafety practices in genetic engineering and biotechnological work in the country. It also encouraged programmes aimed at creating public awareness about biosafety, community participation and education of citizens on the essence of biosafety.

⁴⁰ Section 32 of the Biosafety Act, 2011 outlines the details on dealing with unintentional release into the environment.

FORESTRY-RELATED LAWS AND IMPLEMENTATION OF THE CBD IN GHANA

The Forest Sector Development Projects (FSDP I & FSDP II), Community Resource Management Area (CREMA) and Related Project

The FSDP 1 was an initiative that commenced in 1995 and had the objective of ensuring the establishment of an effective and efficient forestry service that was capable of implementing the country's forest policy, and to eventually transform the then Ghana Forestry Department (FD) into an autonomous self-financing Forest Service (FS). When the project expired in 1999, it was replaced by phase two (FSDP 2) which spanned April 2000 to 2006. The phase two subsequently aided the Government of Ghana and various stakeholders in the establishment of an institutional framework that promoted sustainable economic growth and enhanced efforts at nationwide poverty reduction.⁴¹

The World Bank in 2006 estimated that Ghana's pace of deforestation was about 65,000 ha per year, and this has left only 16 (6%) of the 266 designated forest reserves in a healthy state.⁴² Other studies have made similar or even worst estimates.⁴³ Thus, to increase the country's forest cover by 10,000 hectares annually, in the year 2008, the Forestry Services Division (FSD) surveyed and demarcated 1,440 hectares under the Community Forest Management Project (CFMP) and 178 hectares under FSD model plantation programme. In addition, the division prepared 195 hectares under the Modified Taungya System⁴⁴, 152 hectares under the FSD model plantation programme and 891 hectares under the CFMP. Moreover, about 789,050 seedlings were also delivered under the modified Taungya system and 104,434 seedlings of various species were raised in FSD

⁴¹ Government of Ghana (GoG), *Medium-Term National Development Policy Framework: Ghana Shared Growth and Development Agenda (GSGDA), 2010-2013* (National Development Planning Commission (NDPC) 2010).

⁴² *Ibid.* n.3.

⁴³ Kwame Oppong Hackman and Peng Gong, 'Biodiversity estimation of the Western Region of Ghana using arthropod mean morphospecies abundance' [2017] *Biodiversity and Conservation* 2083; Jan Bossart and others, 'Richness, abundance, and complementarity of fruit-feeding butterfly species in relict sacred forests and forest reserves of Ghana' [2006] *Biodiversity and Conservation* 333.

⁴⁴ The Taungya is a form of agroforestry practice in which short term crops are usually cultivated in the early years of the plantation of a woody perennials species in order to utilize the land, control weeds, reduce establishment costs, generate early income and stimulate the development of the woody perennials species. It is a Burmese word meaning "hill cultivation." See definedterm.com/taungya_system.

nurseries during the period under review. Furthermore, under the Heavily Indebted Poor Countries (HIPC) Plantation Programme, 1,127 hectares were surveyed and demarcated during the period while also preparing 1,405 hectares and 752,000 seedlings for delivery and planting.⁴⁵ All these policies and activities are means of implementing the obligations of the CBD and they also impact positively on the lives of the people. For instance, over 12,100 workers were engaged under the HIPC Plantation Programme.

As at 2009, the HIPC Plantation Programme alone had accomplished the establishment of 26,600 hectares of plantation forest – a step which greatly enhances sustainable development. The programme has also facilitated the establishment of 15,000 hectares of plantations in off-reserve forests under its CFMP, whilst 3,000 hectares under its Urban Component have been planted. It also supplied 4,000,000 seedlings to the Greening Ghana Programme.⁴⁶

For a country that has over 280 forest reserves covering a total area of about 23,729 km², or 11% of its total land area, and given the fact that about 75% of these reserves have been designated as “production reserves” for the exploitation of timber, with the remaining 25% been “protection reserves” – thus not currently under exploitation, probably because of “inaccessibility”, it only becomes a necessity to involve the local people in such areas in the management and conservation process.⁴⁷ Hence the introduction of the Community Resource Management Area (CREMA) becomes a welcome project. It must be reiterated that the CBD encourages the involvement and participation of local people in the conservation and management of biodiversity.

The CREMA as a concept was initiated by the Ghana Wildlife Division under the country’s Protected Areas Development Programme (PADP) as a mechanism for encouraging communities bordering the protected areas to “manage and sustainably utilize wildlife resources within a defined area through a Community Participatory Approach”.⁴⁸ The system, as indicated by the World Bank “goes further than any other system in Africa in devolving both the authority and responsibility for wildlife to the level of the individual farmer.” The Bank has consequently argued that the “importance of this approach has gone largely

⁴⁵ Government of Ghana (GoG), *Budget 2009: Investing in A BETTER GHANA* (GoG 2009).

⁴⁶ Ibid.

⁴⁷ Government of Ghana (GoG), *National Biodiversity Strategy and Action Plan* (Ministry of Environment, Science, Technology and Innovation (MESTI) 2016, p. 12).

⁴⁸ Ibid. (p. 14).

unnoticed despite its implications for off-reserve wildlife management as an extra-farm resource in high forest, transition, and savanna areas”.⁴⁹

The CREMA subsequently allows the indigenous people in and around the country’s protected areas to practice efficient management and sustainable use of the wildlife resources within these areas. It has thus become an important first step that empowers local communities to actively participate in the conservation of wildlife both outside the forests and in the protected areas.⁵⁰

The Forestry Development Master Plan (FDMP)

With regards to the forest sector and forestry management and policies related to the CBD and biodiversity conservation, the country has over the years introduced several Forestry Development Master Plans. These include that of 1996, 2012, and the most recent one – the 2016-2036 FDMP. These FDMPs have over the years spearheaded the introduction of relevant strategic initiatives and legislative reforms that have helped in improving and developing forest and wildlife resources which have positive implications for the implementation of the CBD across the country. For instance, through the 1996 FDMP, the country had the revised Forest Plantation Fund Act, 2000 (Act 583), the Forest Protection Amendment Act, 2002, etc.

It is important to note that Ghana’s forestry and timber related policies have almost always had their accompanying legal backings.⁵¹ Moreover, considering the fact that recent statistics indicate that the overall contribution of the major extractive and related sectors such as gold, crude oil, cocoa, and timber to the real GDP are among the country’s top export earners in 2015, and accounted for 78 per cent of the country’s export revenue,⁵² the introduction and eventual implementation of such FDMPs and other related policy documents becomes a necessity. In sum, the FDMPs have over the years aimed at achieving “an inclusive and resilient economy, equitable and tolerant society, safe and sustainable communities, effective and efficient institutions and contributing to world peace and justice”.⁵³

⁴⁹ Ibid. n.3 (p. 47).

⁵⁰ Ghana (Ministry of Environment and Science 2002).

⁵¹ See for instance the Timber Resources (Legality Licensing) Regulations, 2012 (L.I. 2184); Forestry Commission Act, 1999; Timber Resource Management Act, 1997 (Act 547); the Ghana Forestry Commission Act, 1980 (Act 405); the Forest Protection Decree of 1974 (NRCD 243), etc.

⁵² Ibid. n.35.

⁵³ Ibid. (p. 12).

The current FDMP is a 20-year well-articulated plan that spans the period 2016 to 2036. It has been prepared with the vision of among other things ensuring “cooperation, coordination, coherence and synergy in forestry-related issues at all levels.” It also has the targets of “promoting good governance through accountability and transparency” as well as enhancing the modernization of the country’s forest activities “as a means of job creation for the rural and urban poor” while also “promoting timber plantation development.” More importantly, the FDMP also seeks to ensure “biodiversity conservation and ecotourism development” and to pursue “sustainable financing of forestry sector activities”.⁵⁴ The Plan is a reflection of the country’s development agenda, the UN Sustainable Development Goals, as well as relevant MEAs that are in tandem with the targets of the CBD and clearly identifies “the goal of eradicating poverty and achieving sustainable development” as the key components of its objectives.⁵⁵

The current FDMP also outlines plans to “cede out” some of the Forestry Commission’s activities to the private sector, particularly in areas where the private sector has a “comparative advantage.” This transfer of responsibilities is to be carried out after “a sector wide technical and financial audit” and the development of appropriate legislations.⁵⁶ The underlining reason for this is to ensure biodiversity management and sustainable development. The current FDMP is expected to cost roughly \$8.9 billion over the 20 year period. Consequently, the Government of Ghana bears 52% of the cost while internally generated funds from the Forestry Commission and donors take 23% and 25% respectively.⁵⁷

The Government of Ghana has also engaged in Public Private Partnerships (PPP) that has enhanced the implementation of innovative afforestation projects across the country.⁵⁸ There are also in place several other measures that are all geared at addressing the various environmental and biodiversity-related issues across the country. These include the Government/HIPC Plantation Development

⁵⁴ Ibid. (p. v).

⁵⁵ Ibid. (p. 52).

⁵⁶ Ibid. (p. 96).

⁵⁷ Ibid.

⁵⁸ African Development Bank Group, ‘African Development Bank and Forest Investment Program sign loan with Form Ghana Ltd to restore Ghana’s forests’ (*African Development Bank Group*, 7 March 2017) <www.afdb.org/en/news-and-events/african-development-bank-and-forest-investment-program-sign-loan-with-form-ghana-ltd-to-restore-ghanas-forests-16768/> accessed 18 November 2018; National Development Planning Commission (NDPC), *The Implementation of the Ghana Shared Growth and Development Agenda (GSGDA)*, 2010-2013: 2010 Annual Progress Report (National Development Planning Commission 2011).

Programme, Forest Investment Programme (FIP), Community Forest Management Project (CFMP), Forest Resources Management Project (FORUM), Forest Preservation Programme (FPP), etc which are all under the auspices of the country's Forestry Commission (The Forestry Commission of Ghana (FC)).

The FIP, for instance, aims at addressing the fundamental causes of deforestation and enhancing critical transformation by “providing upfront investment to support the implementation of the REDD+ strategy” and generating needed “information and experience for policy and regulatory changes”.⁵⁹ It invests in four major areas and focuses on the high forest zones (HFZ) of the country. These four areas include the coordination of activities such as inter-agency dialogue, enforcement of adopted policies and landscape planning. Secondly, the Project promotes legal and policy reforms, especially in private investment within the forestry sector and on tree tenure. The piloting of projects and schemes are also spearheaded by the FIP. These usually include issues pertaining to benefit-sharing schemes, comprehensive variants of forest reserves management systems, etc. Finally, the FIP undertakes direct investments in the private sector that pursues sustainable forest and agriculture through a REDD+ investment program and also supports technical assistance programs to scale up impact.⁶⁰

Another key project is the Cocoa Farming and Biodiversity in Ghana Project which explores the viability and possibility of increased cocoa production in biodiversity rich surroundings, while establishing cocoa farm tourism in the project community. It also conserves and increases biodiversity on selected farms through the management of a sustainable cocoa ecosystem, and improves farmers' earnings through improved output and ecotourism.

Forestry-Related Laws and Biodiversity Conservation in Ghana: Dealing with Deforestation and Timber Harvesting

For a country that official statistics hints that “logging is at about 4 times the sustainable rate”, the introduction and implementation of stringent and robust measures, as well as effective conservation-related legislation becomes a necessity.⁶¹ In order to conserve forestry biodiversity, the Government of Ghana, through the Forestry Division of the Forestry Commission once selected about 29 forest reserves that covered an estimated area of 117,322 ha, as Globally

⁵⁹ Ministry of Lands and Natural Resources (MLNR), *Ghana Investment Plan for the Forest Investment Program (FIP) 2012*. (Ministry of Lands and Natural Resources 2012, p. iv).

⁶⁰ *Ibid.* (p. v).

⁶¹ *Ibid.* n.11. (p. x).

Significant Biodiversity Areas (GSBAs). The rationale for the establishment of these GSBAs is quite simple: the forests in question houses lofty concentrations of biodiversity of worldwide conservation value. Consequently, several anthropogenic causes of biodiversity as such as logging and other commercial extractive activities are prohibited in these areas.⁶²

Several legislations have also been passed with the same rationale. The Timber Resource Management Act (Act 547)⁶³ was enacted in 1997 and assented to by the President on March 17, 1998. The Act provides for the granting of “timber rights” in a way that aims at securing the “sustainable management and utilization” of the country’s “timber resources” and “to provide for related purposes.” The Act, in order to manage and conserve the country’s forest biodiversity resources prohibits the harvesting of timber in designated areas unless the person has obtained “timber rights in the form of a timber utilization contract” in accordance with the Act. To make the regulation firmer, Section (2) of the Act stipulates that “No timber utilisation contract shall be entered into with any person under this Act unless the person is a body incorporated under the Companies Code, 1963 (Act 179) or under the Incorporated Private Partnerships Act, 1962 (Act 152).” The Timber Resource Management Act together with the Voluntary Partnership Agreement/Forest Law Enforcement, Governance and Trade (VPA/FLEGT) and related forestry legislations and policies forms a solid basis for sustainable development of Ghana’s forest resources and consequently enhances the implementation of the CBD. The Act has also been given a further boost by the promulgation of the Timber Resources Management Regulations, 1998 (LI 1649).

Section 3 (3e) of the Act 547 calls for individuals and groups that apply for a timber utilization contract to present “proposals to assist in addressing social needs of the communities who have interest in the applicant’s proposed area of operations.” Section 4(2) of the Act also specifically dictates that: “No timber rights shall be granted in respect of- (a) a land with forest plantations... (d) lands with farms; without the authorization in writing of the individual, group or owner concerned.” In addition, Section 18(k) of the Act also mandates the sector Minister to make

⁶² Ministry of Environment and Science (MoES), *National Biodiversity Strategy for Ghana* (Ministry of Environment and Science 2002).

⁶³ The Act has been given further boost by the promulgation of the Timber Resources (Legality Licensing) Regulations, 2012 (L.I. 2184). This legislative instrument establishes the Timber Validation Committee whose duties include monitoring and ensuring that the agencies tasked with verification of timber and related matters perform their work in a credible manner.

appropriate legislative instruments that regulates the prescription of species of trees considered “depleted”, “threatened”, “endangered”, or “economically extinct” and also specify “the conditions under which they may be felled” upon the recommendations of the Forestry Commission.

In a similar vein, during the reign of the Armed Forces Revolutionary Council (AFRC), the military administration decreed the Economic Plants Protection Decree, 1979 (AFRCD 47) which provides for “the prohibition of the destruction of specified plants of economic value and for related matters.” The decree consequently prescribes a compensation, fine and punishment for offenders. These rules and regulations eventually give an indication of the extent to which the State is willing to protect forestry resources and their sustainable use and the implications such resources should have on the communities in which they are located. Moreover, with the introduction of relevant laws and regulations⁶⁴, the incidence of bush fires (which is a major cause of biodiversity loss) across the country has been reducing over the years.⁶⁵

In recent times, one of the most comprehensive legal documents that have been enacted by the Ghanaian State to ensure sustainable development and the conservation of biodiversity, particularly forest resources and timber, is the Timber Resource Management and Legality Licensing Regulations, 2017. This legislative instrument has been welcomed by both citizens and corporations in the forestry and environmental sector at home and abroad. It has especially been welcomed by the EU since it is seen as an important milestone in achieving not just the targets of the VPA/FLEGT, but also for the CBD as whole.⁶⁶ As a matter of fact, the

⁶⁴ See the Control and Prevention of Bushfires Act, 1990 (P.N.D.C.L.229). This Act among other things prohibits bush fires; defines what it means to start a bushfire; calls for the creation and training of fire volunteers; makes it duty for all citizens to report bushfires; prescribes offences and related punishments, etc.

⁶⁵ National Development Planning Commission (NDPC), *The Implementation of the Ghana Shared Growth and Development Agenda (GSGDA)*, 2010-2013: 2013 Annual Progress Report (National Development Planning Commission 2014); National Development Planning Commission (NDPC), *The Implementation of the Ghana Shared Growth and Development Agenda (GSGDA)*, 2010-2013: 2010 Annual Progress Report (National Development Planning Commission 2011).

⁶⁶ European Forest Institute, ‘New regulations in Ghana important milestone for full VPA implementation’ (*EU FLEGT Facility*, 22 November 2017) <www.euflegt.efi.int/ghana-news/-/asset_publisher/FWJBfN3Zu1f6/content/new-regulations-in-ghana-important-milestone-for-full-vpa-implementation-1> accessed 10 December 2018; Frederick Asiamah, ‘Ghana: New Timber Legality Law Good for Ghana-EU Vpa’ (*AllAfrica*, 20 November 2017) <<https://allafrica.com/stories/201711200769.html>> accessed 10 December 2018.

introduction and adoption of this L.I. boosts the country's "efforts to be the first country in Africa, and only the second in the world, to meet the stringent timber-legality requirements of the lucrative EU market" (FLEGT.org Info, 2017).⁶⁷

Among the several key issues addressed by the new Regulation is the requirement by section (26) for all companies seeking commercial logging permits to negotiate appropriate Social Responsibility Agreements with the adjacent communities where their activities are to be carried out. The Act also spells out the requirements to determine the suitability of lands to be granted timber rights. Key among these requirements is the compliance of the applicant with existing environmental regulations and the soundness of the techniques involved in their operations and the likely implications such techniques will have on the forest biodiversity. Section (19) of the Act stipulates that with regards to small scale timber rights, the failure of "a successful applicant" "to comply with the requirements" of the Regulations within the specified time would mean a nullification of the right by the sector Minister. This implies that the timber right is tied to the strict adherence to existing environmental regulations and the acceptance of the social responsibility agreement⁶⁸- in effect sustainable development- a focal issue for the CBD.

CONCLUSION

The overarching goal of the study was to examine the implementation of the provisions of the CBD and other related environmental regulations in Ghana amidst the hope of sustainable development. This goal is motivated by the idea that despite the existence of seemingly so many rules regarding conservation of biodiversity in Ghana, there are still evidence of destruction and pollution of the environment which in turn destroys biodiversity in the long run.

The attempt to describe, analyze and explain Ghana's efforts at biodiversity conservation and sustainable development amidst the growing menace directed the researcher to situate the study in the qualitative research design. The reason is that the qualitative design is deemed appropriate for descriptive and explanatory studies. The qualitative design enabled the researcher to obtain relevant data in

⁶⁷ FLEGT.org Info, 'New regulations in Ghana important milestone for full VPA implementation' (*FLEGT.org*, 17 November 2017) <www.flegt.org/news/content/viewItem/new-regulations-in-ghana-important-milestone-for-full-vpa-implementation/17-11-2017/154> accessed 10 December 2018.

⁶⁸ Section 22 of the Timber Resource Management and Legality Licensing Regulations, 2017 gives further terms and conditions regarding the use of the timber rights, contracts, and their monitoring procedures.

non-numerical form which generated rich, in-depth insight into the research questions.

In responding to the two main research questions raised by the study, firstly, with regards to the question on the laws and regulations introduced in Ghana to enhance the implementation of the CBD, as the findings have indicated, several laws, rules, and regulations exist in Ghana that target the implementation of the CBD. These legislations as a matter of fact cover every perceivable issue of biodiversity conservation and environmental protection in the country. They include forestry and wildlife protection laws, ecological and marine-related laws, minerals and natural resources exploration laws, biosafety regulations, etc. These legislations have over the years served as the linchpin around which the implementation of the CBD and other related MEAs revolve.

Secondly, with regards to the question on the measures that has been put in place to deal with the degradation of biodiversity, the study finds that several policies have been introduced and implemented since the coming into force of the CBD notwithstanding that environmental protection effort in the country predates the CBD. Thus, programmes and policies such as the Community Resources Management Area (CREMA), Coastal Wetlands Management Project (CWMP), the Forestry Development Master Plans (FDMPs), the HIPC Plantation Project, Ghana Shared Growth and Development Agenda (GSGDA), National Biodiversity Strategy and Action Plan, etc. have all targeted curbing issues of biodiversity degradation in one way or the other.

REFERENCES

African Development Bank Group, 'African Development Bank and Forest Investment Program sign loan with Form Ghana Ltd to restore Ghana's forests' (*African Development Bank Group*, 7 March 2017) <www.afdb.org/en/news-and-events/african-development-bank-and-forest-investment-program-sign-loan-with-form-ghana-ltd-to-restore-ghanas-forests-16768/> accessed 18 November 2018.

Chris Gordon, Yaa Ntiamoah-Baidu and James M. Ryan, 'The Muni-Pomadze Ramsar site' [2000] *Biodiversity and Conservation* 447.

European Communities, *The Convention on Biological Diversity Implementation in the European Union* (Update 2008, European Commission 2008).

European Forest Institute, 'New regulations in Ghana important milestone for full VPA implementation' (*EU FLEGT Facility*, 22 November 2017) <www.euflegt.efi.int/ghana-news/-/asset_publisher/FWJBfN3Zu1f6/content/new-regulations-in-ghana-important-milestone-for-full-vpa-implementation-1> accessed 10 December 2018.

FLEGT.org Info, 'New regulations in Ghana important milestone for full VPA implementation' (*FLEGT.org*, 17 November 2017) <www.flegt.org/news/content/viewItem/new-regulations-in-ghana-important-milestone-for-full-vpa-implementation/17-11-2017/154> accessed 10 December 2018.

Frederick Asiamah, 'Ghana: New Timber Legality Law Good for Ghana-EU VPA' (*AllAfrica*, 20 November 2017) <<https://allafrica.com/stories/201711200769.html>> accessed 10 December 2018.

Forestry Commission of Ghana (FC), 'Ghana FLEGT VPA' (*The Forestry Commission*, 2018) <<http://fcghana.org/fctvd/index.php/about-ghana-s-flegt-vpa/detail-history>> accessed 18 November 2018.

Government of Ghana (GoG), *Budget 2009: Investing in A BETTER GHANA* (GoG 2009).

Government of Ghana (GoG), *National Biodiversity Strategy and Action Plan* (Ministry of Environment, Science, Technology and Innovation (MESTI) 2016).

Government of Ghana (GoG), *The 2018 Budget Statement and Economic Policy of Government: "Putting Ghana Back to Work"* (Ministry of Finance and Economic Planning 2017).

Government of Ghana (GoG), *Medium-Term National Development Policy Framework: Ghana Shared Growth and Development Agenda (GSGDA), 2010-2013* (National Development Planning Commission (NDPC) 2010).

Hens L and Boon EK, 'Institutional, Legal and Economic Instruments in Ghana's Environmental Policy' [1999] *Environmental Management* 337.

Institute of Statistical, Social & Economic Research (ISSER), *Policies and Options for Ghana's Economic Development* (K Ewusi ed, 3rd edn, Institute of Statistical, Social & Economic Research (ISSER) 2013).

International Monetary Fund (IMF), *Ghana: Poverty Reduction Strategy Paper* (IMF 2012).

Jan Bossart, E. Opuni-Frimpong, S. Kudaar and E. Nkrumah, 'Richness, abundance, and complementarity of fruit-feeding butterfly species in relict sacred forests and forest reserves of Ghana' [2006] *Biodiversity and Conservation* 333.

Kwame Oppong Hackman and Peng Gong, 'Biodiversity estimation of the western region of Ghana using arthropod mean morphospecies abundance' [2017] *Biodiversity and Conservation* 2083.

Ministry of Environment and Science (MoES), *National Biodiversity Strategy for Ghana* (Ministry of Environment and Science 2002).

Ministry of Environment, Science, Technology & Innovation (MESTI), *CBD Fifth National Report - Ghana*. (MESTI 2015).

Ministry of Lands & Natural Resources (MLNR), *Forestry Development Master Plan (2016-2036)*. (Ministry of Lands & Natural Resources 2016).

Ministry of Lands and Natural Resources (MLNR), *Ghana Investment Plan for the Forest Investment Program (FIP) 2012*. (Ministry of Lands and Natural Resources 2012).

National Development Planning Commission (NDPC), *The Implementation of the Ghana Shared Growth and Development Agenda (GSGDA), 2010-2013: 2010 Annual Progress Report* (National Development Planning Commission 2011).

National Development Planning Commission (NDPC), *The Implementation of the Ghana Shared Growth and Development Agenda (GSGDA), 2010-2013: 2013 Annual Progress Report* (National Development Planning Commission 2014).

The Forestry Commission of Ghana (FC), 'Forest and Wildlife Sector Programmes' (The Forestry Commission of Ghana (FC)) <<http://fcghana.org/page.php?page=266§ion=28&typ=1>> accessed 18 November 2018.

Thomas Prehi Botchway, 'Implementing effective environmental policies for sustainable development: Insight into the implementation of the CBD in Ghana' (2021) *Cogent Social Sciences*.

Thomas Prehi Botchway and Ishmael K. Hlovor, 'Mitigating the Challenges Related to the Implementation of the Convention on Biological Diversity in Ghana' (2019), *Journal of Sustainable Development* 12.

UNCTAD, *Natural Resources Management and Sustainable Development: the Case of the Gold Sector in Ghana* (United Nations Conference on Trade and Development (UNCTAD) 1995).

USAID/Ghana, *USAID/Ghana Country Development Cooperation Strategy 2013-2017* (USAID/Ghana 2012).

World Bank, *Ghana: Country Environmental Analysis* (World Bank 2006).

Zina O'Leary, *The Essential Guide to Doing Your Research Project* (3rd edn, SAGE Publications Ltd 2017).