

STATUS OF BIODIVERSITY AND IMPACT ASSESSMENT IN GHANA

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Introduction

Ghana is part of the Upper Guinea forest ecosystem region of West Africa, which contains exceptionally diverse ecological communities of forest habitat providing refuge to numerous endemic species. The southern western part lies within the Guinea-Congolian, the middle belt within the Guinea-Congolian Sudanian transition zone, while the northern tip of the country falls within the Sudanian zone.

This area is one of the world's 25 biological richest and most endangered terrestrial eco regions.

A variety of socio-economic factors have led to forest fragmentation which threatens the variability of biodiversity in the region.

The region is considered one of the world's top priority regions for conservation because of its high endemism of flora and fauna. The overall forest ecosystem of the region covered approximated 420,000 square kilometres but estimates of existing forest suggest a loss of nearly 80 percent. In Ghana, the area lies in the southern-western part of the country including the Bia, Ankasa and Kakum protected areas.

The south-west of Ghana has many unique biological features which make it important for conservation. The vegetation comprises all the major forest types (from moist evergreen to dry semi-deciduous). At least nine species of plants are endemic to Ghana. Although the existing forests are heavily fragmented, Ghana presents a tremendous opportunity for species conservation due to the existence, of a relatively high capacity for conservation and the absence of civil conflict.

Current Status of Biodiversity

There is lack of information on the full coverage of biological resources of the country. However it is known there are about 2,974 indigenous plant species, 504 fishes, 728 birds, 225 mammals, 221 species of amphibians and reptiles have been recorded.

Endemic species include three species of frogs, the lizard and 23 species of butterflies.

Sixteen per cent of Ghana's land surface has been set aside to conserve representative samples of natural ecosystem in the form of forest resources, natural parks and other wild life reserves including various traditional forms of conservation.

Generally, knowledge and information on genetic diversity of various life-forms and organisms

existing in the country are diffuse, incomplete and inaccurate. Information on terrestrial ecosystem are greater and more complete than that of the marine and other aquatic system. Knowledge and information on species diversity of plants and animals and ecological processes within terrestrial habitats can be said to be fair to good. In contrast information on plants and animals of the marine and aquatic world and the processes that determine their resilience of such organisms is barely available. Very little is known about the entire microbial diversity to terrestrial, marine and aquatic ecosystem in the country.

Threats to Biodiversity

Threats to biodiversity in the region include bush meat trade, agricultural expansion, commercial logging and mining, extraction of non-timber forest products.

Ghana was once renowned for its extensive forests and wooded savanna, but the situation has changed drastically. Tropical moist forest originally extended over 145,000 km² of Ghana. By the turn of the century it was estimated that 88,000km² forests remained, occupying 35% of the total land area. Between 1938 and 1981 the area of closed forest in Ghana was reduced by 64% from 47,000km² to 17,200km² and open woodland declined by 37% from 111,000km² to 69,000km². By the mid – 1970s, more than 90% of the country's high forests had been logged since the late 1940. The current area of intact forest is now estimated at between 10.9 and 11.8% of the original cover and 6.9% of the country's total area. The current rates of deforestation average 22,000 ha/annum or about 1.3%.

Desertification is largely brought about through deforestation resulting from farming practices and fuel wood collection and is a major concern in the semi-arid parts of the country.

Mining represents a serious threat to forest in certain areas, several which are of high conservation interest. Floral and faunal diversity has been significantly reduced due to bushfires. The incidence of bushfires is on the increase in the high forest zone where many plant and animal species are not fire resistant and therefore highly susceptible to destruction when bushfires occur.

In Ghana, meat from wild animals is a major source of protein and hunting is important for rural subsistence. In many areas over hunting has contributed to steep decline in species numbers and diversity. Hunting both within and outside wildlife

and forest reserves threatens several species, particularly primates, with local extinction.

The biodiversity of Ghana is under threat due to the quest for socio-economic development, especially urbanisation, industrialization and tourism.

Environmental legislation in Ghana is fragmented, much of it has been initiated in an *ad hoc* manner due to lack of coherence in environmental planning and policy process. This has resulted among other things in the poor co-ordination of management between wildlife and forest authorities.

Ghana's socio-economic development and growth in the past had been achieved almost exclusively at the experimental degradation on yearly basis had been estimated conservatively at about 40 per cent of the country's gross domestic product. Biodiversity is threatened as the physical environment gets degraded.

Initiatives to Address Issues

There are over 280 forest reserves spread over all the ecological zones of the country which make up about 11% of the total land area of Ghana. The reserves are designated mainly as productive and/or protective. 75% of the forest reserves are exploited for timber and non-timber forest products including fuel-wood, herbal medicines, cane and rattan. Designated protective forest reserves provide protections for watersheds.

29 of the existing forest reserves, covering an area of about 117,322 ha as Globally Significant Biodiversity Areas (GSBAs). The creation of GSBAs was attributed to the fact that those reserves were found to harbour a high concentration of biological resources of global conservation importance. As a result logging and other commercial extractive activities are excluded,

while new management plans are being developed to ensure community participation and effective conservation and sustainable management of the biological resources of these areas.

The concept of Important Bird Areas (IBAs) has been introduced, which uses birds as indicators of habitat quality. The concept provides a practical index of the diversity and condition of an ecosystem on a site-by-site basis. There are 36 of such areas of global significance made up of protected areas and forest reserves covering an area of about 11,494 km² (4.8% of the country's land surface area). Of the total area covered by IBAs 42% is forest, 48% is savanna and the 9.2% wetland.

A biodiversity priority-setting workshop organised in 1999 by Conservation International and other collaborators to establish priority areas for

biodiversity conservation within the Upper Guinean forest Ecosystem identified as Biological Corridors. The south-western portion of Ghana and the south-eastern portion of Cote d'Ivoire constitutes one such corridor.

There are 16 legally constituted wildlife reserves covering 5.3% of the total land surface area. The wildlife authorities under the Protected Areas Development Programme (PADP) have introduced and pilot-tested a new concept of community participation in wildlife management dubbed Community Resource Management areas (CREMA). This allows communities fringing the protected areas to manage and sustainably utilise the wildlife resources within a defined area.

Other actions taken to promote biodiversity conservation include:

- Ghana signing the Convention on Biodiversity in June 1992 and ratification in 29th August 1994.

- Ratification of the Biosafety Protocol in May 2003 as the fiftieth country.

- Preparation and publication of the Natural Biodiversity Strategy, which was preceded by carrying out a Biodiversity Country Study.

- Revision of the Environmental Education Strategy to include integration of biodiversity conservation into school curriculum by the Environmental Protection Agency and Conservation International – Ghana.

- Establishment of Biodiversity Reporting Award by Conservation International

- National Bushmeat Crisis Awareness Campaign in 2002 to highlight the threats of bushmeat trade and commercial hunting.
- Promotion of eco-tourism activities.
- Initiation of a Northern Savannah Biodiversity Conservation of biodiversity, agro-biodiversity and the sustainable utilization of medicinal plants in the three northern regions of Ghana.

The objectives include:

- Develop a savanna resources management strategy framework
- Improve the conservation and management of nationally and globally significant plant and animal species and their habitats including maintenance of field gene banks of threatened indigenous crop varieties and medicinal plants.

- Enhance community awareness, involvement, and adoption of improved biodiversity management plans and conservation measures.
- Establishment of the Centre for Biodiversity Utilisation and development (CBUD) to equip people with skills and techniques of managing the production, utilization and marketing of biological food resources that are marginalized, underutilized or endangered.

Biodiversity and Impact Assessment

In Ghana, the Environmental Protection Agency has the mandate to request for Environmental Impact Assessment (EIA) under the Environmental Protection Agency Act, 1994 Act 490. Under this mandate, Environmental Assessment Regulations, 1999 LI 1652 has been passed which requires that:

“No person shall commence activities in respect of any undertaking which in the opinion of the Agency has or is likely to have adverse effect on the environment or public health unless, prior to the commencement, the undertaking has been registered by the Agency in respect of the undertaking”.

Also under the EIA regulations undertakings listed in Schedule 1 cannot commence unless it has been registered with the Agency and environmental permit issued by the Agency in respect of the undertaking.

The undertakings include, agriculture, (livestock farms, fruit and other vegetable farms) fishing and trapping, logging and forestry (logging, forestry services, mining, crude oil and natural gas and quarries and sand pits, construction, highways and

heavy construction (roads, water works and sewage system) utilities, accommodation, amusement and recreational services.

There is also a list of undertakings for which environmental impact is mandatory. This list includes undertakings related agriculture, airport, drainage and irrigation, land reclamation, fisheries, forestry, housing, infrastructure, industry, ports, mining, petroleum, power generation, resort and recreational development, waste treatment and disposal, water supply and environmental conservation and management.

In addition to the above, any undertaking which falls within an area classified as environmentally sensitive area would automatically require environmental impact assessment and an environmental permit. The environmentally sensitive areas include:

1. All areas declared by law as national parks, watershed reserves, wildlife reserves and sanctuaries including sacred groves.
2. Areas with potential tourist value
3. Areas which constitute the habitat of any endangered or threatened species of indigenous wildlife (flora and fauna)
4. Areas of unique historic, archaeological or scientific interests
5. Areas prone to natural disasters (geological hazards, floods, rainstorms, earthquakes, landslides, volcanic activity etc)
6. Areas prone to bushfires

7. Hilly areas with critical slopes
8. Areas classified as prime agricultural lands
9. Recharge areas of aquifers
10. Water bodies characterized by one or any combination of the following conditions:
 - a. Water tapped for domestic purposes;
 - b. Water within the controlled and/or protected areas;
 - c. Water which support wildlife and fishery activities
11. Mangrove areas characterised by one or any combination of the following conditions:
 - a. Areas with primary pristine and dense growth

- b. Areas adjoining the mouth of major river systems
- c. Areas near or adjacent to traditional fishing grounds
- d. Areas which act as natural buffers against shore erosion, strong winds or storm.

The list covers areas which have significance for biodiversity, to ensure that biodiversity in these areas are not threatened or undermined.