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LEGAL REGULATORY AND INSTITUTIONAL ASPECTS OF
ENVIRONMENTAL AND NATURAL RESOURCE MANAGEMENT
IN DEVELOPING COUNTRIES

A COUNTRY STUDY OF GHANA



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ENVIRONMENTAL AND NATURAL RESOURCES MANAGEMENT IN GHANA

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International Institute for
Environment and Development

Legal, Regulatory and Institutional Aspects of Environmental and
Natural Resources Management in Ghana

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CHAPTER ONE

OVERVIEW OF THE COUNTRY

The Land

The Republic of Ghana lies in the Tropic Zone just a few degrees north of the equator on the West Coast of Africa. The country, divided into nine major regions including the capital city of Accra, consists of a slowly undulating plateau which falls in a series of steps toward the sea. The land is lanced throughout by two magnificent rivers, the Black and the White Volta, which conjoin in the north-central part of the country to form the main Volta. This confluence fills the great reservoir known as Lake Volta, an impoundment of the major dam at Akosombo. The Volta River Basin area occupies almost forty-five percent of the available land in Ghana, and is a major economic factor in the life of the country.

The face of the land in Ghana is relatively flat and close to sea level. (The high plains which rise in the north and northwestern part of the country never exceed three thousand feet in elevation.) The most conspicuous features of the land are the Mapomg-Koforidua Ridge and the Akwapim-Togo Ranges which meet in a great "vee" and contain the waters of Lake Volta. To the south of the Mapomg-Koforidua Ridge is the Kwahu scarp. The scarp is important because of its influence

on rainfall and vegetation. The prevailing wind from the southeast comes laden with moisture from the Gulf of Guinea which is precipitated on the seaward face of the Kwahu Plateau. Thus, southwest Ghana is largely composed of broadleaf deciduous forest while the upper half of the country is composed of savannah and grass. It is in the triangular forest area of the southwest that almost all of the country's economic activity takes place, e.g. the production of gold, cocoa, bauxite, coffee, etc.

The north of Ghana, or the high plains outside of the Volta River Basin, consists of a relatively under-populated arid plateau averaging between 150 and three hundred meters in elevation. Due to the virtual absence of the tsetse fly, livestock raising and grain crops farming are the main occupations.

Finally, the land descends into the low plains composed of the coastal savanna, the Volta Delta and the Akan lowlands. The Akan lowlands situated on the western portion of the coast are characterized by several small river basins with a grassy, shrub-covered soil. Small, but important, production centers cluster around these small river basins. The Volta Delta, which marks the eastern limit of the coastal savanna, is characterized by a rich soil given over to the production of cassava and corn. Fishing provides the major occupation of the area, and the delta supplies dried and salted fish to other parts of the country.

The climate of Ghana is greatly influenced by the three major air masses that flow over West Africa; the northeast tradewinds, or harmattan, the southwest tradewinds, or monsoons, and the equatorial easterlies. It is in the conflict of the harmattan and the monsoons which give the country its cycle of rain and drought, with the harmattan dominant in the north and the monsoons dominant along the coast.

Vegetation and Wildlife

Some thirty percent of the country consists of closed forest while the other seventy percent comprises savanna vegetation characterized by an increasing sparseness as one moves north toward the greater influence of the harmattan. Strand and mangrove vegetation front out onto the sea and in the rich lagoons which proliferate along the coast. Rising behind the coastal scrub and grassland in the southwestern part of the country is the high forest.

Ghana has a fairly varied wildlife resource base and it has reserved some dozen areas as major protected zones and national parks. The three largest - Mole, Digya and Bui National Parks - comprise almost a million hectares in total.

Wildlife in these National Parks include the Wild Hog; the Aardvark, a wide variety of ungulates e.g. Common Waterbuck, Needbuck, etc. Birdlife is abundant and so are reptiles.

A 1978 report lists the total mammalian fauna of Ghana as numbering some 184 species, and a checklist of wildlife sold on the market in Ghana includes some 35 species.

CHAPTER TWO

ENVIRONMENTAL AND NATURAL RESOURCES PROBLEMS IN GHANA

1. Environmental Health: The development of so much surface water in Lake Volta has inevitably led to a sharp increase in vector borne diseases. Schistosomiasis, which previously was of little importance, is now widespread in areas of still water. Onchocerciasis and other diseases prevail as well.

Sanitation has become a major problem in most urban areas. In a 1976 "World Environment Report" article, a high ranking Ghanaian government official stated that Ghana's major environmental problems are "...the simple elementary ones of human excreta and the removal of disease-bearing organic matter from drinking water." The Ghana Water and Sewerage Corporation is hard-pressed to keep up with the demands of a growing population and the increasing urbanization of major cities. Even in Accra itself, large plots are set aside for the disposal of trash which rarely gets collected. The EPC insists that failure to tackle the sanitation problem in the large urban areas will lead to widespread disease.

Lake Volta, while enormous in inundated land area, is quite shallow. During the dry season, evaporation and water releases to generate energy cause the level of the lake to decrease even further.

As the lake recedes, the fertile soil exposed is put to opportunity farming usage. Unhappily, when the lake fills again, residual fertilizers and pesticides are absorbed into the waters and may in time pose a health threat.

2. Water Resources: Ghana is rich in water resources. A large number of streams and rivers flow throughout the land. In addition, there are two large bodies of water: Lake Volta, which fills much of the eastern portion of the country, and Lake Bosumtwi, a natural body of water in the Ashanti region which has no outlet to the sea. However, erratic rainfall leads to erosion and leaching of the soil. High temperatures and high winds further evaporate the country's water resources. The quality of the water is poor with the result that water-related diseases are endemic in some parts of the country. The upper reaches of the Volta River are rife with the black fly simulium damnosum which transmits onchocerciasis. Schistosomiasis and malaria are also prevalent in many stillwater areas.

Groundwater quality in most of Ghana is good with adequate amounts available along the coastal plain. Alluvial groundwater potential for large scale irrigation is high. Groundwater development is an important government program because of its ability to supply safe, potable water to the population.

3. Impact of Agricultural Activities on Ghana's Soils

The soils occurring in Ghana are highly weathered, sesquioxide-rich, humus poor (except in the forest area) and largely kaolinitic. The soils of Ghana are, in fact, quite sensitive, a thin stratum of topsoil overlying decomposed and infertile rock. Such a soil is easily eroded as a result of overgrazing, slash and burn procedures, drought and any process which might tend to reduce the natural vegetation cover. Because rock type soils tend to gain fertility with increased vegetation cover, one would expect greater fertility to the southwest of Ghana as compared to the north where vegetation is sparse. Unhappily, weathering, leaching and human activities in the southwest have reduced the quality of of the soil.

Slash and burn techniques are in common usage among Ghanaian farmers. After an initial burst of fertility, (due to the residual ash), the soil greatly falls off in productivity and is allowed to go fallow with subsequent erosion. As the population swells in Ghana, the fallow period between land usage has been on the decline with a consequent decrease in soil fertility. Mechanization of farming techniques also has treated the soil more harshly, with a consequent increase in erosion.

Herdsmen also create a problem. With additional animal health facilities and more assured water supply becoming available the size of the cattle herds has been on the increase.

It is upon these fragile soils that Ghana bases its predominant economic sector - agriculture. Some sixty percent of the population earns its livelihood in this area with consequent burning of the soil, overgrazing by cattle, and surface mining all tending to detract from the soil's qualities. And, as noted, increases in mechanical agriculture and a reduction in the number of fallow years during which the soil stands idle between cultivation have not helped soil conservation, despite the soil conservation legislation established in 1957. Currently, the Soil Research Institute of the Center for Scientific and Industrial Research (CSIR) is experimenting with different soil utilization patterns.

4. Coastal Zone and Marine Pollution: A recent UNEP mission found that Ghana's beaches on the Gulf of Guinea are routinely polluted with oil from passing tankers. Further, and perhaps most importantly, the discharge of raw sewerage through inadequate, or broken, sea outfalls is common in some areas, particularly around Accra where attempts are being made to improve the sewerage system. Where industrial effluents are discharged without treatment into coastal lagoons, such as Korle Lagoon in Accra, serious pollution has occurred. Coastal erosion, especially along the lagoons of the east coast continues to be a problem. Keta, a town in the east of Accra was almost washed away in the late 60's and early 70's. Much of it has been rebuilt

on land claimed from the lagoon but precautions have to be taken to prevent a similar occurrence in the highly susceptible lagoonal areas.

5. Deforestation: Well over 60% of Ghana's forest has been destroyed in the search for agricultural land, minerals and firewood, and logging for timber as well as in the pursuit of increased cocoa production.

The surface layer of forest soil is rich in humus and produces excellent crops when first cleared. Unhappily, the forest cannot later compete with the grass that invades it once land clearance takes place. Small grass fires, either deliberately lit by farmers to clear the ground or through spontaneous combustion, while doing no permanent harm to the grass, destroy the ability of the forest to regenerate itself later.

6. Industrial Pollution: Lack of monitoring, legislation and enforcement of legislation to minimise industrial pollution has led to a growing number of abuses. As noted, the Korle Lagoon, in Accra, is now badly polluted from domestic and industrial wastes and exudes an unpleasant odor. Further, sulphur dioxide and particulate matter is rising rapidly in certain areas of Tema, where many of the newly established industries and the Volta Aluminum Smelter Company (VALCO) are located.

CHAPTER THREE

OVERVIEW OF GOVERNMENT STRUCTURE AND LEGAL SYSTEM

The current constitution was promulgated in September, 1979. The fundamental principles of this constitution provide, inter alia, for the rule of law. The constitution is declared to be the "supreme law" of Ghana. Article 45 vests executive authority in the President; legislative and judiciary powers are vested in Parliament and the Judiciary respectively. In Article 73, the Constitution calls for the establishment of a National Development Commission to "advise the President on planning and developmental policy and strategy and shall ensure that the planning and development strategy of the President is carried out." In addition to advice received from this Commission, the President also acts in accordance with advice from the Council of State, the National Security Commission, and a cabinet consisting of the Ministers of state (17 Ministers, as of December, 1980). In Article 57, the President is authorised to appoint various commissions, the most important for our purposes being the Lands Commission.

Ghana is declared to be a unitary state, although one of the directive principles of state policy is to decentralise the administrative machinery. Thus, in addition to the strong central administration in the capital, there are regional, district and town area authorities which have autonomy over matters like sanitation, water supply, etc.

At present, the country is divided into nine main regions (including the Greater Accra Region) and 65 district councils. The operative legislation which outlines this regional administration policy is the 1972 Local Government Act, as amended. The latest Amendment, the Local Government (Amendment) Act 1980 (Act 403), has replaced Part 1 of the old Act in order to give effect to Article 185 of the Constitution - the creation of regional councils.

The major organs for local government administration are the district and other local government councils. These councils are responsible for administration in the area of their authority (in consultation with the village, town or area committees), as well as other such functions as Parliament may prescribe. Their administrative functions relate to education, health, housing, town and country planning, transport, agriculture, social welfare and public works. They may also levy taxes, subject to the approval of Parliament and not less than 2/3 of the members of the appropriate Council. Technically, these district councils have rather extensive power for local administration. It is generally recognised however, that decentralisation as envisaged under the Local Government Act has not yet been achieved, with the result that the Central Ministry (of Local Government) in Accra handles a considerable number of local issues.

The Ghanaian legal system is comprised of a mixture of laws which include: the Constitution, statutory law and common law. While this review cannot focus on the jurisprudential theories and definitions of these laws, a brief description is necessary. Statutory law includes

those enactments, orders, rules and regulations issued by the competent government authorities. The majority of environmental laws to be described in this review fall under this category. Common law is a generic term which includes the rules of common law, the principles of equity and customary law. It is clear from this definition that there is a narrower body of common law which is subsumed under the bigger whole. This narrower set of laws applies to that legacy of colonial rule, English common law. Customary law means those indigenous rules which apply to and regulate the personal relationships and transactions of particular communities in Ghana.

The Ghanaian Judiciary consists of the Supreme Court, the Court of Appeal, High Court of Justice and such other inferior courts and traditional courts as Parliament may by law establish.

CHAPTER FOUR

THE ROLE OF LAW IN GHANA

A brief discussion of the role of law in Ghana is necessary if its impact on encouraging environmentally sound development is to be understood. Of the three types of laws described in the preceding chapter, customary law and statutory law are the ones which concern us most in this section. With the possible exception of "nuisances", there are very few environmental and natural resources laws which fall under the "narrower" common law category.

The most important set of customary laws for our purposes are those which relate to land and water use in tribal or community areas known as "stool lands". Under the current Constitution, all stool lands are vested in the appropriate stool on behalf of, and in trust for, the subjects of the stool. "Stool" literally means the "throne" of a particular chieftaincy but it is also understood to mean the areas falling under the Chief's authority. Power to dispose of stool lands is vested in the stool and the traditional councils, but is subject to the approval of the Lands Commission (Article 190(3) of the Constitution). The majority of customary rules relating to land regulate ownership, usufructory rights, etc. However, there are a few customary laws which regulate land and water use. For example customary law regulates customary usage of rivers, streams, etc. for the supply of drinking

water, bathing, swimming, and even conservation in times of drought. Very little research has been done on these customary rules on natural resource uses and conservation and so it is difficult to assess their impact.

The passing of legislation in the last few years has not necessarily resulted in an improvement in natural resource conservation and environmental quality. Weak or inadequate enforcement may be contributing factors, but the content of the laws themselves may also be relevant. Since custom and culture have such an important bearing on patterns of resource use, it is very important for environmental legislation to take into account some of these customary practices. Forestry legislation which prohibits the felling of trees in an area where tree felling has been an age-old practice, is bound to be infringed. However, the same legislation with more management-oriented rules, which provides viable alternatives to practices to be prohibited or curtailed under the law has a much better chance of widespread compliance. This can be achieved through public information programmes and campaigns which enable the people affected to engage in debate on the subject.

The procedure for law-making usually involves the relevant Ministry and the Attorney General's Department, and finally Parliament. Proposals for legislation originate from the relevant Ministry or Government agency, eg the Volta River Authority or the Forestry Department. These proposals go to the Attorney-General's Department, the Drafting Section of which makes a draft to be presented to Parliament. The opportunity for involving the public exists at that stage where the relevant authority is preparing the proposals for legislation, but

there is little evidence that this opportunity has been utilized. With regard to legislation already in force, there is a Law Reform Commission which has responsibility for review and improvement of laws.

Environmental law as a specialisation is still in its infancy in Ghana. It is not taught at the University of Ghana Law School, nor does the EPC have an environmental law division, in spite of the fact that it recognises the importance of the rapidly increasing legal content of its work. Recently the Law Faculty collaborated with the EPC in compiling a complete list of environmental legislation in Ghana - it is hoped that this will initiate the process for strengthening the role of law in the EPC's work in particular and in natural resource management in Ghana in general.

CHAPTER FIVE

THE GOVERNMENT'S POLICY TOWARDS PROTECTION OF THE ENVIRONMENT
AND THE UTILIZATION OF NATURAL RESOURCES

The Government of Ghana is committed to a policy of intelligent utilization of natural resources without further degradation of the environment. Article 9(1)(e) of the Constitution empowers Parliament to enact such laws as will insure "that there are adequate medical and health facilities for all persons and measures to improve the environment." In addition, Article 191 notes that Natural Resources (Forests and Fisheries) Commissions shall be responsible for "the regulation and management of the utilisation of the natural resources concerned and the coordination of the policies in relation thereto."

Insofar as environmental matters are concerned, the government created an Environment Protection Council (EPC) in 1974. The EPC is charged with the responsibility for advising the government generally on all matters relating to the social and economic life of the country. The EPC is a statutory inter-disciplinary body made up of representatives from the Council for Scientific and Industrial Research (CSIR), and the universities and various specialized ministries of the Republic of Ghana. The Council has a number of Committees which deal with specific technical problems of concern. At present, draft legislation has been prepared requiring the use of Environmental Impact Statements on all projects in the country but this proposal has yet to be accepted by the Ministry of Industries, Science and Technology for enactment into law.

These two documents are the only official documents which specifically refer to government policy. Examples of government programs, especially in the health and agriculture sectors, elaborate further on this policy as do periodic government statements. For example, on May 14, 1980, the President of Ghana announced a major new initiative for stepped-up agricultural development in the Republic. The goal of the Administration is to make Ghana self-sufficient in local foodstuffs and eventually to produce enough so that there will be surpluses for export. In order to achieve this goal, the Administration has already imported and sold to small-scale farmers a considerable amount of fertiliser, seed, rice, maize, and groundnuts, as well as small farming implements. The food production targets outlined in the new program will be assigned to small-scale producers, private commercial or corporate farms and parastatal organizations. In addition, regional targets have been set up. The Grains Development Board has been directed to intensify its block farming activities and to render extension services to farmers operating in designated areas. Those farmers not covered by the Board will receive extension services from the Department of Agriculture. In addition to increased vegetable production, the government is planning an increase in both poultry and pig production as the major source of meat. The fish production situation in Ghana is more complex and the government has set less ambitious goals while enlisting the full resources of the Department of Fisheries, the State Fishing Corporation, all of the fishing co-operatives and associations as well as private fishing companies.

In the area of irrigation, the government intends to pursue two approaches: (a) complete all of the present on-going land development schemes already earmarked for irrigated farming; and (b) promote increased use of pump irrigation from Lake Volta, rivers and other sources of water for irrigated farming.

In order for this ambitious program to be successful, an intensified training program has been set up involving agricultural staff, extension personnel and farmers. Trainees are to be given intensive in-service training organized by the universities, research institutes and farm institutes in Ghana.

These agricultural policies have been outlined in detail because they illustrate the Government of Ghana's commitment to optimum utilisation of its natural resources - soils, water, land, fisheries, etc. - to satisfy domestic needs. This is to be achieved through sound agricultural practices which the Government of Ghana plans to encourage.

CHAPTER SIX

INSTITUTIONS WITH RESPONSIBILITY FOR ENVIRONMENTAL MATTERS

A. The Environmental Protection Council: The primary government institution charged with environmental control is the Environmental Protection Council (EPC). Created in 1974, the EPC is specifically charged with the responsibility to:

"(a) Advise the government generally on all matters pertaining to the environment...

(b) Coordinate the activities of all bodies concerned with environmental matters...

(c) Conduct and promote investigations, studies, surveys, etc., including training, which relates to the improvement of Ghana's environment...

(d) Serve as the official body for cooperating with national and international institutions concerned with the environment...

(e) Respond to the government on specific requests of an investigatory nature...

(f) Increase public awareness of environmental concerns through educational programs, etc....

(g) Without prejudice to the economic and social advancement of Ghana, ensure the observance of proper safeguards in the planning and execution of development projects, and...

(h) Perform such other functions as the government may assign to the Council."

It is to be noted that, with the exception of item "g", the duties of the EPC are to "advise...coordinate...respond to the government on specific requests"...etc. Only item "g", to "ensure the observance of proper safeguards in the planning and execution of development projects", could be construed as giving the EPC a review and enforcement power over the project development process now taking place in Ghana. However, it is our observation that item "g" has not been, nor can it be, interpreted so liberally.

This observation is confirmed by virtually all of the officials we discussed this situation with, and more to the point, by the Executive Chairman of the EPC. In a paper prepared 25 May, 1979, the Executive Chairman noted: "So far, the functions of the Environmental Protection Council have been largely advisory and catalytic; the Council is not an executing agency with powers of enforcement...we consider that if the nation's environmental protection efforts are to make an effective impact then the Environmental Protection Council should be given the necessary powers to take up cases of environmental infringements and pursue them."

The staff of the Council consists, at present, of an Executive Chairman, a Secretary under the overall direction of the Executive Chairman, a Public Relations Officer, a Scientific Coordinator, a Social Sciences Officer, a Senior Assistant Secretary, and a number of Research Officers in the physical, biological and social sciences. The rest of the permanent staff consist of a laboratory technician, clerical

and accounting assistants and non-professional employees. In short, a total staff of seven professional officers. There are plans for additional appointments, including a Legal Officer.

The bulk of the Council's work includes providing advice to official bodies and private concerns on environmental implications of industrial development; investigating complaints; inspecting industries and other sites; conducting research into problems of environment in Ghana; and organizing lectures, seminars, etc., aimed at educating the public. The council has formed various specialised committees to provide guidance for the execution of this work. These committees are:-

(1) The Toxic Chemical Committee

This committee is engaged in preparing a Toxic Chemicals Register. The section dealing with pesticides is already completed and the other sections concerning industrial chemicals and heavy metals and food additives will soon be ready. The committee is also expected to advise on the importation, distribution and use of toxic chemicals.

(2) The Water Pollution Control Committee

This committee has recently completed work on draft legislation for the protection of Ghana's water resources from indiscriminate pollution from industrial and other sources.

(3) The Industrial Pollution Committee

The Committee is presently preparing guidelines for the control of air, water and land pollution specifically related to industrial activity.

(4) The Environmental Education Committee

The Committee develops strategies for the education of the general public on their responsibilities for protecting the environment. It co-operates with the Ghana Education Service and other bodies in preparing programs on environmental education in Ghana's primary and secondary schools, and also for the non-formal sector.

(5) Natural Ecosystems Committee

This Committee coordinates the activities of government agencies interested in preserving the environment, or whose activities involve the exploitation of natural resources. While this is the Committee whose work is most directly relevant for the majority of Ghana's natural resources management, its work has not had such an impact. However, the Committee has conducted a survey of sacred groves (trees and places which are customarily venerated) in Ghana.

(6) Korle Lagoon and Accra Sanitation Action Unit

Because of insanitary conditions in parts of Accra and especially the Korle Lagoon, this unit was set up to prepare recommendations

for dealing with sanitation in general and cleaning up the Korle Lagoon in particular.

(7) Waste Disposal in Accra

The Committee is working on the problem of how to develop simple and cheap methods of garbage disposal, the organization of effective methods of garbage collection and the identification of disposal sites whose location will both reduce operation costs and minimise health hazards.

(8) Natural Disaster Committee

This Committee works with appropriate agencies to insure that adequate disaster relief services are available in the event of natural disasters such as earthquakes, floods, storms, etc. Some of its functions seem to overlap those of the National Earthquake Protection Agency, an agency within the Geological Survey.

(9) Committee on Environmental Impact Statement

This Committee is responsible for ensuring that economic development activities do not pose undue hazards to the environment. The Committee is in the process of negotiating legislation to cover environmental impact statements.

(10) Committee on Marine and Coastal Pollution in West Africa

This Committee has been working on the overall problem of oil spill and other forms of pollution along Ghana's Coast. The Committee is cooperating with UNEP and is working towards the preparation of an Action Plan to protect the Gulf of Guinea from pollution.

In addition to these Committees, Council members serve on a variety of other Government Committees such as:

1. Radiation Protection Board of the Ghana Atomic Energy Commission
2. Pesticides Review Committee of the Ministry of Agriculture
3. Project Management Committee on the Disposal of Human Excreta of the Environmental Quality Division, University of Science and Technology, Kumasi
4. National Road Safety Committee
5. Ghana National Committee for the International Hydrological Programme
6. The National Committee for Onchocerciasis

In addition, the Council has worked with the Volta River Authority (VRA) on environmental health matters such as waterborne diseases, and the hazards resulting from the manufacture of alumina from local bauxite. Also, the Council's advice was sought on the location of a paper mill on the Pra River. Complaints concerning environmental nuisances such as pollution of rivers, sanitation, bad odor, etc. have

also been investigated by the Committee. And EPC staff have visited mining areas, factories, etc. to study conditions and identify problems. Further, the EPC is carrying out a research program on the problems of environmental degradation, and eight separate projects had been identified by May, 1979.

While the EPC is responsible for ensuring the observance of proper safeguards in the planning and execution of all projects, as mentioned earlier, its functions are purely advisory and it has no enforcement powers. At the moment, the Ministry of Industry (MOI) and the EPC are negotiating a proposal by the EPC for an Environmental Impact Statement (EIS) Act.

The EIS requirement was originally proposed as an amendment to the Manufacturing Industries Act of 1971 (Act 356) which provided that licenses be issued on terms and conditions which took into account certain environmental quality standards. In April 1980, the EPC issued environmental quality criteria concerning water quality. Air and noise standards were to be issued at a later date. The purpose of these standards was to provide for the effective implementation of the EIS proposals as well as the draft Water Law prepared by the Water Pollution Committee. In addition, it was proposed to have a separate EIS Decree or Act (Draft EIS Decree, 1978) which would require all new project proposals to be preceded by the filing of an acceptable EIS with an inter-ministerial committee on which the EPC will be represented. Such a review would ensure that industries are built and operated in accordance with these standards. Membership

on this proposed Committee includes the Chief Lands Officer, the Accra City Engineer, and a representative from the Town and Country Planning Board. As matters now stand, this proposal has been referred to the Office of the Deputy Minister of MOI where it is now under review.

At the present time, the EPC is severely handicapped in more ways than one in discharging its responsibility of controlling the country's environmental problems. The EPC has no vehicles, no functioning telephone system, little lab equipment, a very small library, etc. If it is to assert itself more forcefully, it will require those basic needs as well as more sophisticated equipment. In fact, given the mandatory and financial constraints under which the EPC operates, its achievements to date have been remarkable. However, the allocation of such scarce resources by itself raises a basic issue. What future role does the Government of Ghana envision for the EPC?

In the present organizational set-up, the EPC has been placed within the Ministry of Finance and Economic Planning. Such a location for the EPC is logical in that this Ministry is the central point through which all project proposals for development schemes within Ghana must pass. However, the EPC, having merely advisory rank, then becomes merely another check point, always interested, but more often than not, unaware of what is being proposed. It has no power to issue a requirement that all proposals should be referred to it for review. Hence, the number of projects with potential environmental hazards that have been brought to the EPC's attention by private individuals outnumber those that have been referred to it through governmental channels.

In view of these limitations, the EPC has directed its attention to activities with which it feels it can have more influence - clean-up campaigns in the major cities, for example.

In fact, the EPC has been so active in, and vocal on this subject that there is a real danger of this overshadowing its other work, but perhaps it is better to make a lasting imprint in one sector (pollution control) than in none at all.

A number of criticisms have been levelled at the Council. Some think that the Council itself is uncertain about the role it wants to play. This is evidenced by the fact that the Council's focus and the areas where its dynamism has been felt relate to narrow pollution issues. Also, it is widely felt that the Council has not done nearly enough to tackle the bulk of the country's natural resource issues, although a careful examination of the Council's activities does not entirely support this view. Council officials, if not the Council as such, have been very active in a number of areas, eg. land use, town planning and the protection of ecosystems.

Admittedly, the Council does not have the facilities - technical, financial and manpower - for monitoring or carrying out an active environmental and natural resource management programme. However, there are sufficient units within the various Government of Ghana Ministries, universities and research institutions which the EPC could mobilise to perform some of these functions. The general consensus

is that in certain important areas the EPC is not successful in coordinating the activities of various Government of Ghana departments.

The positive impacts of the EPC's work have been in the health and agriculture fields. The EPC's sanitation campaign was referred to, as were the pesticides programme, the proposals for EIS and the case involving the Akosombo Textiles Industry - the factory that has been dumping untreated wastewater.

With regard to representation on the EPC, it is generally recognised that the present representation on the Council is top heavy. Usually, it is up to the Principal Secretary within the relevant Ministry to nominate the most appropriate officer to represent the Ministry. However, because of the EPC's advisory role, the tendency has been to nominate fairly senior officials to the Council. Generally, however, it is felt that this tendency is not of itself a serious problem, especially since the actual work of the Council is performed by specialised committees which almost invariably co-opt the appropriate officials from the relevant Government of Ghana departments (even departments like the VRA, which is not directly represented on the Council).

B. Other institutions with responsibility for environmental matters

There are a considerable number of Government institutions whose activities have a bearing on environmental management and whose work deserve description here:-

1. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH

Created by Decree (NLCD 329) in 1968, the Council's primary tasks are, inter alia:

To advise the Government on scientific and technological advances likely to be of importance to national development;

To encourage scientific and industrial research of importance to the development of the national interest in industry, technology, agriculture and medicine;

When necessary to establish research institutes, units and projects;

To co-ordinate research in all aspects in the country;

To encourage and help individuals and organizations engaged in research in Ghana;

To cooperate and maintain liaison with national and international organizations in any part of the world on matters of research.

The following research institutes together form the CSIR:

- a) Animal Research Institute
- b) Building and Road Research Institute
- c) Cocoa Research Institute
- d) Crops Research Institute
- e) Food Research Institute
- f) Forest Products Research Institute
- g) Institute of Aquatic Biology
- h) Institute of Standards and Industrial Research

- i) Soil Research Institute
- j) The National Atlas Project
- k) The Herbs of Ghana Project, and
- l) The Water Resources Research Unit
- m) Industrial Research Institute

Many of the research institutes serve as an additional resource base for the EPC. For example, the Water Resources Research Institute has been cooperating with EPC in the monthly monitoring of the Korle Lagoon. And the Industrial Research Institute has been helping the EPC develop a project to examine the rate of generation and the characteristics of refuse, facilities for the most efficient and economical methods for disposing of refuse, and a survey of existing and potential dumping and disposal sites.

2. THE GHANA STANDARDS BOARD

The Ghana Standards Board (GSB) is the sole standardization and certification organization in Ghana and was established in 1967. Under the provisions of the Legislative Instruments Acts, Acts (662) and (664), every manufacturer is required to obtain the Board's Certification License before "he exhibits for sale, sells, distributes, prepares for export, exports or otherwise disposes of goods manufactured by an industrial process."

When an application is made to the GSB, the Board's technical staff visit the factory where the product is manufactured. During this visit, the manufacturer's facilities are checked for good production

techniques, and samples of the product are collected for laboratory and other tests. If the product is satisfactory, the GSB will issue a Ghana Standards Certification Mark Licence. If the product is manufactured abroad, a Ghana Standards Certificate of Exemption may be issued, which would simply mean that the product meets the requirements of such foreign specifications as are accepted by the GSB.

It should be noted that the GSB is primarily interested in quality control of manufactured products and not necessarily in environmental and health concerns, (those functions being carried out by other ministries, including the Ministry of Health), but it cooperates with the EPC in setting environmental quality standards. For example, the GSB has a well-equipped chemical laboratory at Okpongo. This and other facilities are sometimes utilized by the EPC when testing and analysis are required. At present, the GSB is soliciting funds to institute a nation-wide pesticide monitoring program.

3. THE MINISTRY OF LANDS, NATURAL RESOURCES, FUEL AND POWER

The Ministry has overall responsibility for coordinating the activities and programmes of those Corporations and Department which formulate and implement Government policies with regard to, inter alia, creation and management of forest reserves, day-to-day administration of stool lands, both on-shore and off-shore exploration and the management of game reserves etc. Hence, the Ministry is responsible for the affairs of numerous agencies, the most important for the purposes of this review

being: the Geological Survey, the Forestry Department, the Game and Wildlife Department, and the Volta River Authority. In addition to these, there are over 15 other departments such as the Survey, Lands Departments, etc. and some Public Corporations. The current composition of the Ministry provides the institutional framework for surveying, exploring and managing the country's lands and other natural resources. Also, the Ministry has established a procedure for the issuing of licences for permission to develop the country's natural resources. Two licences - one for exploration and one for production - are required. All proposals are presented to two committees (the Technical Committee - on minerals or whatever natural resource is in question - and the Public Agreements Review Committee) for approval. The former committee reviews the proposal for technical and economic feasibility while the latter checks for compliance with overall Government policy and reviews the terms of the Agreement. It is worth noting that this is the stage at which planning for natural resources development might benefit most from incorporation of environmental considerations.

Recently, legislation has been passed which will establish Lands, Fisheries and Forestry Commissions to implement Articles 189 and 191 of the Constitution. While it is premature to assess the impact of these Commissions, one observation can be made. It is only the Forestry Commission Act 1980 (Act 405) which includes the "Ministry responsible for natural resources" on the Commission. The other two Commissions do not make reference to that Ministry. Membership on these Commissions is currently being established and the Commissions are expected to be fully operational in a short while. At that time a more accurate

evaluation of the impact of these Commissions on natural resources policy and the existing administrative structure can be made.

As of this writing, reports have been received that the Ministry has been divided into a Lands and Natural Resources Ministry and a Fuel and Power Ministry, but it is understood that no new departments or corporations have been created.

The work of some of the Ministry's departments are described below.

a. The Volta River Authority

The Volta river project began in 1961 when work started on the 500 MW dam at Akosombo. By 1972 the second stage was implemented when two additional generating units raised the installed capacity to 900 MW. In 1972 a transmission line permitted power to flow to neighbouring Togo and Dahomey. By 1981, the 148 MW dam at Kpong will be completed downstream of Akosombo and a 300 MW dam at Bui on the Black Volta is now planned for completion by 1985.

The Volta River Authority (VRA), created by Act 46 in 1961, manages the power development schemes planned for the country. Under the Act, the VRA is responsible for the generation of electrical power for the operation of an aluminum industry and for general industrial and domestic uses in Ghana. In addition, the VRA has responsibility for the construction and operation of a transmission system for the distribution

of electrical power for the operation of an aluminum industry and for general industrial and domestic uses in Ghana. In addition, the VRA has responsibility for the construction and operation of a transmission system for the distribution of electrical power generated by the Authority, the provision of facilities for the development of the lake as a source of fish and a route for the transportation of goods, as well as the development of the lakeside area for the health and well-being of the inhabitants.

In the Act, the VRA is enjoined to operate the dam at Akosombo to prevent the harmful penetration of salt water up the River Volta, to maintain the Lake at a height greater than 280 feet above mean sea level, to prevent downstream flooding and, if such flooding should occur, to give adequate warning. Further, the Authority is responsible for executing the provisions of the Mosquito Ordinance in the Akosombo area, is responsible for town and country planning, for taking measures to enhance the natural beauty of the lakeside, and for preventing slums. Further, the Act empowers the Minister of Social Welfare to ensure that "no person suffers undue hardship as a result of the construction of the dam."

It can be argued that this requirement is too stringent (in fact it is a very good example of "legislating for blue skies".) Nevertheless, even if it is judged by a weaker standard, the VRA's performance has been far from satisfactory. The dam at Akosombo has been plagued with health problems ever since its reservoir was filled. Some of these health problems were anticipated during the planning stages

of the Volta dam and proposals on measures to eliminate or minimise these hazards were made in the feasibility report. It does not appear that the measures outlined in that report were fully carried out.

A 1960 survey showed an overall occurrence of urinary schistosomiasis caused by the snail Bulinus Truncatus Rohlfsi, of only 5% among school children. But surveys in 1967 showed that in some areas the rate had climbed to 90%, with a wide variance found along the shoreline. Migratory fishermen as well as children who draw water from the Lake spread the disease. The resettlement scheme at Akosombo did not take into consideration that many resettles were fishermen who would not accept the farming lifestyle offered to them and would continue their regular riverine fishing activities. In addition, the community latrine system broke down when pumps for flushing water failed and spare parts could not be procured because of a shortage of foreign exchange.

Onchocerciasis, carried by the black fly, Simulium Damnosum, was widespread prior to the formation of Lake Volta. When the reservoir was impounded, many of the major breeding sites were inundated in the central part of the river. However, in the upper river above lake level, a high incidence remains. The Onchocerciasis Control Programme at the present time uses ABATE 200 (a water soluble larvicide). Since most of this chemical will be deposited in the Lake, there is an urgent need to intensify the aquatic monitoring program to ensure that there is little adverse effects on aquatic life. The Institute of Aquatic Biology is currently responsible for such monitoring on behalf of the programme. The downriver problem should be eased considerably

when the rapids are drowned by the pool which will form behind the Kpong dam. Malaria is hyperendemic in Ghana and the situation has not been changed significantly by any of the work being carried out by the VRA. (Malaria is a nation-wide problem and will have to be resolved on that level.) Trypanosomiasis (African Sleeping Sickness) is carried by the tsetse fly, Glossina Palpalis. The formation of the Lake inundated many of the tsetse fly areas. However, vegetation is changing and increasing attention will have to be paid to this vector. Some concern has also been expressed over the amount of fertilizer and pesticides that enter Lake Volta from indigents who farm the shoreline as the Lake fills and is drawn down.

With regard to Kpong, the outer fringes of the head pond will create a good habitat for the disease-bearing snail. The overall plan is to keep the resettled villagers away from the reservoir once it is formed. Only five points of entry are planned to the reservoir area at Kpong and these can be easily monitored. The villagers will be supplied with piped, potable water and communal latrines.

The projected dam at Bui will in some ways be an even more complex undertaking. Part of the reservoir will back up into the Ivory Coast and as yet no agreement has been reached between the two countries as to how the Ivory Coast will be compensated for this loss of land. Further, Upper Volta has plans of its own to build a dam on the Black Volta River. If built, this dam would affect the operations of the dam at Bui. At present there is no joint institutional mechanism for management of the Volta River basin to resolve these problems.

Finally, it should be noted that the VRA is the one government agency which brings about the most far-reaching environmental change in Ghana, and yet it is not directly represented on the EPC. It is represented by its parent Ministry, the Ministry of Lands. However, the VRA participates on those committees which are pertinent to VRA undertakings.

b. Forestry Department

The Forestry Department, which is represented on the EPC through the Ministry of Lands, is in charge of implementing Ghana's forestry policy which includes:

1. The creation of permanent forest resources by the reservation of suitably situated areas of forest or land suitable for afforestation.
2. The management of permanent forest resources by methods that will achieve maximum productivity.
3. The conduct of research into all branches of scientific forestry.
4. The carrying out of a public education programme aimed at increasing public awareness of the need and value of the nation's forests.
5. The maximum utilization of forest resources not dedicated to permanent forestry.
6. The training of staff.
7. The provision of technical advice and assistance to non-Governmental forestry activities.
8. Cooperation with all agencies interested in optimum land usage.

In 1900, Ghana had some 30,000 square miles of forest. By 1975, that amount had been reduced to 10,000 square miles. It is feared that by the year 2000, all of the forest will have disappeared. The absence of any meaningful land use policy and the land tenure system which permits land owners to use their land for any purpose have contributed greatly to the destruction of the forest. So has the increased and rapidly increasing search for firewood.

Ironically, Ghana's main economic problem, the lack of adequate foreign exchange reserves, has helped to save some of its forest resources. Mill owners have had to shut down because of the lack of spare parts, and exporters are less active because of the small return when foreign currency is converted back by the Bank of Ghana.

The Department's response to these problems has been to attempt to establish fuel plantations and woodlots, as well as encourage agroforestry and agrosilviculture rather than argue over land use. It is also trying to encourage the planting of fast growing trees, e.g. melaina for wood pulp, etc. The Department, through the Forestry Products Research Institute, is now analysing data on sample plots, etc. in order to propose guidelines for the management of forest resources. The situation with regard to these guidelines is in a state of flux, as the new Forestry Commission Act 1980 will create a commission which will assume some of the functions of the Department. A great deal of work remains to be done, once the Commission is operational, to assign responsibilities to the various bodies responsible for forestry programs.

Another difficulty the Department faces is the lack of trained manpower and an adequate training program. Funds for the latter simply do not exist. With additional staff, it might be possible to conduct a better public information program, but in order for that to be effective it would need much more in the way of government and public support.

c. The Geological Survey

Legally authorized by the Survey Act of 1962, the Department consists of a headquarters in Accra and seven regional offices. At present the Department consists of about seventy professionals who are engaged in the preparation of geological maps and a survey of Ghana's mineral resources. Such geological investigations disclose the existence of metallic ores and other materials useful for industrial purposes. In addition, the Department maintains a monitoring network and a record of seismic activity, particularly of the earthquakes which have struck Ghana in recent years, two of which occurred in the Akosombo--Kpong area during April, 1977. Recently, the Department was relieved of the responsibility for groundwater exploration, that function now being handled by the Water and Sewerage Corporation.

The Department is not represented directly on the EPC, nor is the EPC represented on the National Earthquake Protection Agency, an agency of the Department which is chaired by the Director of the Department.

d. Game and Wildlife Division

The present policy of the Wildlife Division is to encourage a wildlife program which is compatible with the needs of the population while at the same time stressing conservation. Since many Ghanaians eat wild game for protein supply, the department is trying to develop wildlife ranching. The department maintains that this approach is more successful than the cattle ranching schemes in the Accra plains. The latter projects were very costly and failed largely because tropical conditions were not satisfactory for the livestock which was imported. The current course of action by the Wildlife Division has not been entirely favorably received within Ghana, nor by certain international donors which would like to see more traditional attempts at conservation.

The relevant Wildlife Law (No. 625) and legislative instruments are strict and provide for the setting aside of certain vegetation zones for representative species of animals. Like other Government agencies the Wildlife Division is faced with a severe shortage of funds and trained manpower.

4. THE MINISTRY OF WORKS AND HOUSING

While this Ministry in general plays a noteworthy role in environmental management, especially in the human settlements sector, there are two branches - the Town and Country Planning Department and the Ghana Water and Sewerage Corporation - which deserve special mention in this report.

a. The Water and Sewerage Corporation of Ghana

This Corporation was established under the Ghana Water and Sewerage Corporation Act, 1965 (Act 310). The Corporation is responsible for providing potable water to the population of Ghana (from both surface and groundwater sources) as well as the treatment and disposal of sewage. At the moment, the Corporation supplies water for commercial and domestic purposes to just under half of the population, but is operating at about 60% capacity. The Corporation is greatly hampered by a lack of funds as well as a shortage of spare parts manufactured abroad and the means to acquire them. The Government's restraints on revenue collection, which do not permit the Corporation to charge economically adequate rates, etc., have made the Corporation financially dependent upon the Government. Aside from an inability to monitor reservoir areas, replace and/or repair broken conduits, etc., the Water Quality Control Unit of this Corporation is plagued with the problem of eradicating the aquatic weed, piscia grass, which works its way into many water systems. Several institutions are working on this problem, including the CSIR and other branches within the Corporation itself which may have led to some duplication of effort.

The Ghana Water and Sewerage Corporation is represented directly on the EPC by an official of the Water Quality Section.

b. Town and Country Planning Department

This Department is in charge of physical planning, land use and zoning, most particularly in urban areas. Like the EPC, its role is purely advisory, and often plans it prepares are subsequently

altered without its consent or knowledge. The greater share of its work is done by committees which include representatives from the Ministry of Health, the Electric Corporation, the City Councils, the Ghana Water and Sewerage Corporation and the Regional Planning Offices. Legally, their authority stems from the 1945 Town and Country Planning Act as amended in 1958. The staff works closely with the Resettlement Office of the VRA and the Department is represented on the EPC's Korle Lagoon Action Unit.

5. THE MINISTRY OF AGRICULTURE

The Ministry of Agriculture is composed of the Cocoa Division, the Agricultural Settlements Division, the Animal Health Division, the Crop Production Division, the Farm Supplies Division and a Training and Manpower Division. The Ministry maintains a network of cooperatives and extension agents so as to procure and supply fertilizers, pesticides, farming implements to the small scale farmer in addition to the marketing, distribution and storage system. Today, the Ministry is engaged principally in implementing the agricultural programs which have been called for by the present administration.

The Irrigation Development Authority

The Irrigation Development Authority was established in 1977 under the Irrigation Authority Decree, SMCD 85. The Authority was created as an autonomous body because of the growing number of irrigation schemes being carried out throughout the country, some sixteen short-term

projects, seven medium-term projects, and five long-term projects. The Authority works closely with the Soil Research Institute of the CSIR, the VRA and the Ministry of Health. Again, the Authority is very much concerned with the prevalence of malaria, schistosomiasis, and onchocerciasis. And again, a lack of trained manpower, spare parts adequate transportation, etc., hinders the program.

The Irrigation Development Authority is represented indirectly on the EPC through the Ministry of Agriculture.

6. THE MINISTRY OF INDUSTRY, SCIENCE AND TECHNOLOGY (MOI)

The MOI coordinates all activities of an industrial nature taking place in Ghana. Further, any industrial activity of a substantial nature must be approved by the MOI before work can begin on the new facilities. As mentioned earlier, the EPC is liaising with the Ministry with regard to the promulgation of an EIA Act. Matters relating to the environment are handled by the Planning Division of the Ministry. The Ministry is represented on the EPC.

7. THE MINISTRY OF FINANCE AND ECONOMIC PLANNING

The central coordinating point for virtually all of the development activities taking place in Ghana today is the Ministry of Finance and Economic Planning. As mentioned earlier, although the EPC is part

of this Ministry, the internal flow of information has not been entirely satisfactory. Not all proposals which concern environmental matters have been referred to the EPC. In a few instances, however, the EPC has managed to dig out the necessary background information and alter some project proposals.

8. THE MINISTRY OF HEALTH

Insofar as environmental matters are concerned (as distinct from the provision of health services), the Ministry of Health, in cooperation with the Ghana Standards Board, is responsible for the quality of drugs and processed food, either imported into Ghana, or produced locally. The Ministry's mandate includes the promotion of health and the prevention of disease and the provision of, inter alia, environmental health and health education services. Most of the Ministry's programs, especially in the public health field can be described as environmental. However, the main characteristic of environmental health management in Ghana is the fragmentation of responsibility between the local authorities and the various Government Departments and Corporations, such as the Water and Sewerage Corporation and the Volta River Authority. An example will be given of the Ministry's activities in coordinating some environmental health issues.

The Environmental Health Unit

This unit forms part of the Environmental Health Services Division of the Ministry, and although its activities can be summarised as involving the physical control of the environment, the services it provides include sanitation, health education, control of water supplies, disposal

of refuse and night soil, even the control of markets and slaughter houses. The unit was created to help in the transition of power from the Ministry to the local authorities, and the need for constant cooperation with the local authorities is evident from the broad mandate described above. This unit works closely with the District Medical Officer of Health, the GWSC's planning and research unit, and the city councils, especially in Accra. Its role within the Ministry and the Ministry of Local Government is currently being discussed by those two Ministries. In addition, a new Health Services Bill, which may restructure the entire Ministry, is undergoing debate. We were unable to obtain a copy of the draft.

9. THE HEALTH COMMITTEE ON WATER RESOURCES DEVELOPMENT

Due to the large number of water resources development projects taking place throughout the country, many of the agencies described above are represented on the Health Committee on Water Resources Development. The purpose of the Committee is to provide advice and share information among the various agencies engaged in the development of water resources on the health aspects of such activities. Represented on the Committee are: (a) the Ministry of Health; (b) the Irrigation Department Authority; (c) the Volta River Authority; (d) the Ministry of Economic Planning; (e) the Environment Protection Council; (f) the Institute of Aquatic Biology; (g) the Water Resources Research Unit; (h) the Ghana Water and Sewerage Corporation; (i) the Environmental Quality Division of the University of Science and Technology; and (j) the Department of Community Health of the University of Ghana

Medical School. The Health Committee is involved in inventorying known health hazards, monitoring and evaluation of water resources projects, recommending remedial measures, identifying research needs, project identification and encouraging public awareness of the problem. Further, the Committee is engaged in preparing guidelines for a legislative instrument requiring all water resources development agencies (VRA, Ghana Water and Sewerage, the Irrigation Development Authority, etc.) to obtain a clearance certificate from the Ministry of Health showing that all health aspects of future projects had been considered prior to undertaking implementation.

The Health Committee is a significant step toward resolving a major health problem in Ghana - the implementation of water resources projects without a coordinated approach to the health hazards involved. Even so, much work needs to be done, the legislation has to be prepared, an evaluation and approval mechanism set up, etc.

The foregoing discussion applies to those government agencies which were visited by the project team. They in no way constitute the complete list of relevant environment-related institutions in the country or indeed in the central administration. This illustrates the complexity of the institutional framework in Ghana as well as the fragmentation of responsibility for environmental matters. It also highlights the magnitude of the task of coordination with which the EPC is charged.

CHAPTER SEVEN

A. Basic Environmental and Natural Resources Laws and Sectoral Regulation

Although Ghana has a fairly substantial number of laws pertaining to protection of the environment and management of the country's natural resources, there is no coalescing set of laws which establishes a national policy and environmental quality standards. Relevant environmental regulations appear either as sub-sections in the legal instruments which create key Governmental or quasi-governmental institutions, or as part of the general regulations for the various sectors. The only legal instrument which could be considered a unifying thread is the Environmental Protection Council Decree, 1974, as amended. This conclusion is arrived at by inference only, as the Decree focusses entirely on the constitutional and administrative authority of the Council rather than on a broad statement of Ghana's environmental and natural resources policy. As an example, S. 2(1)(9) of the Act charges the Council with the responsibility of ensuring "...the observance of proper safeguards in the planning and execution of all development projects, including those already in existence that are likely to interfere with the quality of the environment." Thus, implying that Ghana's policy

is to ensure that the development process does not interfere with environmental quality. A strong argument can be made for the need for an unequivocal statement of this policy in a legal instrument as well as the establishment of certain environmental quality criteria, but this argument will be discussed in a later chapter.

In addition to the Environmental Protection Council Decree, there are other pieces of legislation which are of general application to the environment and which deserve mention here, before our discussion of sectoral regulation. These are:

The Criminal Code 1960 (Act 29),

The Local Government Act, 1971 (Act 359)

The Town and Country Planning Ordinance, Cap 84 (1951 Rev.)

The Towns Ordinance Cap. 86 (1951 Rev.)

The Mosquitoes Ordinance, Cap. 75 (1951 Rev.)

The Tsetse Fly (Control) Ordinance 1955 (No. 34 of 1955)

The Infectious Diseases Ordinance, Cap. 78 (1951 Rev.)

The Quarantine Ordinance, Cap. 77 (1951 Rev.)

The titles themselves indicate the strong public health orientation of these legislation. They make provision for securing proper sanitary conditions, the promotion of public health, eradication of dangerous or disease-carrying pests, etc. Although these laws can, and should logically be described under another heading (probably sanitation or public health) they are discussed here to illustrate the point that Ghana's environmental legislation had its origins in the context of

the promotion of human health, the prevention of disease and the prevention of nuisances (filth, dirt, refuse of all kinds, etc.) The provision in Article 9(1)(e) of the Constitution maintains the public health link.

B. Other laws which pertain to environmental protection in the various sectors include:

1. Soil Conservation and Land Utilisation

The main legal provision covering this subject is the Land Planning and Soil Conservation Ordinance, No. 32 of 1953, as amended by the Land Planning and Soil Conservation.(Amendment) Act, 1957 (No. 35 of 1957). The main objective of this legislation is to provide for the better utilisation of land by proper methods of cultivation and soil conservation. It charges the appropriate authorities with the responsibility of carrying out work that may be deemed necessary for, inter alia, "...the mitigation or prevention of soil erosion and the reclamation of land." Also, provision is made authorising regulations to prevent the firing, clearing or destruction of vegetation, and to encourage the afforestation and reafforestation of land, etc.

There is also the Council for Scientific and Industrial Research Decree, 1968 (N.L.C.D. 293) as amended by N.L.C.D. 329 establishing in S. 13(2)(i) a Soil Research Institute. This institute, located near Kumasi in the Ashanti Region, conducts research into Ghana soil types, fertility, erosion, etc.

In addition to these two laws, the existing legislation on town and country planning, mining and forestry contain provisions, the observance of which will result directly in soil conservation or proper land use practices. These laws will be listed in the relevant sections, but we note here as an example the Town and Country Planning Ordinance, Cap 84 (1951 rev.). Although the regulations apply to specific planning areas, they provide for the preservation of lands as open spaces and the protection of forests, woods, trees, shrubs, plants and forest.

Once again, these conclusions on legislative coverage are arrived at by inference and even the Act which bears the appropriate title is dated and sets very broad standards and objectives which require detailed regulations (as yet non-existent) to ensure effective implementation.

2. Forests

The main legislative provisions on the subject are:

The Forest Protection Decree, 1974 (NRCD 243)

The Forests Ordinance Cap 157 (1951 Rev) as amended by Cap 157(A) and Act 10 of 1957

The Concessions Ordinance Cap 136 (1951 Rev)

The Importation of Plants Regulations Cap 159 (1951 Rev)

The Prevention and Control of Pests and Diseases of Plants Act,
1965, Act 307

The Seeds (Certification and Standards) Decree, 1972 (NRCD)
100

The first three laws deal with forest protection proper and make provisions for the creation of forest reserves and the protection of forests in general. The procedure for constituting forest reserves involves the conduct of an inquiry (SS 9 and 9A of the Ordinance). Although the creation of a reserve does not affect the ownership of the land, the Forests Administration is in charge of regulating use and management of the land. The Concessions Ordinance also gives the Chief Conservator of Forests the right to prescribe conditions, restrictions, limitations, etc. to ensure the requisite protection, conservation and management of all forest areas to which the Ordinance applies. The 1974 Decree lays down penalties for forest offences. These offences include felling, farming, setting fires, obstructing a stream or river, hunting, shooting, fishing, etc. in a forest reserve without the written authority of the competent forest authority.

As mentioned earlier, a Forestry Commission Act 1980, Act 405 has been passed. This Act gives very broad powers for management of Ghana's forests to this Commission. Problems faced by the present Forests Department have been described earlier and one has to await the operation of the new Forestry Commission to examine the use to which the Commission puts these laws.

3. Water Supply and Quality

The main piece of legislation in this field is the Ghana Water and Sewerage Corporation Act 1965, Act 310. It establishes a body corporate whose functions are: (a) "the provision, distribution and conservation of the supply of water in Ghana for public, domestic and industrial purposes; and (b) the establishment, operation and control of sewerage systems of such purposes." The Board of the Corporation is authorized to promulgate subsidiary legislation and one of the subjects the Board is to consider is: "the prevention of the pollution of water." Another important legislation on water quality is the Volta River Development Act, 1961. The Volta River Authority, which this Act creates, is empowered, among other things, to carry out the development of the lakeside for the health and well-being of the inhabitants, S 10(e). The various actions which the Authority has taken to discharge this obligation and the problems it faces in doing so have been described earlier.

Other Acts of general application to water supply, water quality, use of water for navigation, etc. are:

- The Rivers Ordinance, 1903, Cap 226 (1951 Rev) for dredging and diverting of rivers, river navigation, etc.
- The Oil in Navigable Waters Act 1964 (Act 255) implementing the 1954 International Convention and extending it to navigable inland rivers

- Forests Ordinance Cap. 157 (1951 Rev.) to safeguard water resources in a forest reserve
- Mosquitoes Ordinance Cap. 75 (1951 Rev.) to prevent the contamination of water by mosquito larvae
- The Wild Animals Preservation Act, 1961 (Act 43)
- The Minerals Act 1962 (Act 126)
- Town Ordinance Cap. 86 (1951 Rev.)
- The Mining Ordinance Cap. 155 (1951 Rev.)

4. Wildlife

Ghana's wildlife resources are protected by the Wild Animals Preservation Act 1961, (Act 43). It calls for the appointment of honorary game officers, arrangements for the granting of permits for the collection of specimens, restrictions on the export of trophies, the schedule of animals to be protected, etc. It also provides for the establishment of closed seasons to facilitate the rearing of the young. In addition, the Wildlife Reserve Regulations of 1971 (LI 1710, as amended) provide for the establishment of wildlife reservations. Enforcement of these regulations is in the hands of the Wildlife Department whose activities have been described above.

5. Protected Areas

This is a broad heading, under which forest, wildlife reservations, places of historical value and scenic beauty fall. Ghana's Game and Wildlife Reserves are legally covered by the legislation described

in the section on wildlife. The discussion in this section will be restricted to the latter two types of protected areas. There are similar provisions in the National Museum Decree 1969 (NLCD 387), but perhaps the most interesting provisions on protected areas are those relating to fetish lands (places customarily venerated). The Concessions Ordinance Cap 136 (1951 Rev.), the Forests Ordinance Cap. 157 (1951 Rev.), and the Minerals Ordinance Cap. 155 (1951 Rev.) all make provision for the preservation of fetish groves and trees. The EPC has been interested in these and has conducted some research on the subject.

6. Mining

Because of Ghana's long history of mining (for gold, bauxite, etc.) there is an old law governing the mining industry's activities. This law, the Mining Health Areas Ordinance, Cap. 150 (1951 Rev.) deals with the health and general sanitation of mining areas, the objective being to provide adequate working and living conditions for mine workers.

The law authorizes the Minister responsible for health to issue regulations for the planning of towns and villages in "mining health" areas (declared by the Minister), the prevention and control of communicable diseases, abatement of nuisances and general sanitary control.

In 1962 the Minerals Act was passed. Its sole purpose was to vest ownership and control of minerals of Ghana in the President on behalf of the country in trust for the people. Although this Act repealed

parts of the Minerals Ordinance Cap 155 (1951 Rev.), those parts which relate to environmental protection, sanitation, prevention of health risks, etc. remained in force. The regulations made under the Mining Rights Regulation Ordinance, Cap 153 (1951 Rev.), as amended, are similar to those rules which the authorities are required to make under the Minerals Ordinance. They include provisions for the prevention of water pollution, regulation of cutting of trees and underwood, regulation of the deposit of overburden, tailings and wastes, etc. There is also the Mines and Minerals (Conservation and Development) Act 1965, Act 278. The Mines Department is responsible for enforcing these regulations.

7. Pesticides, Chemicals and Other Dangerous Substances

Ghana's pesticides legislation can be found in the various health and agricultural laws. Most of these provisions authorise the use of pesticides while a few only indirectly regulate the use of pesticides. In some cases specific chemicals are mentioned but in most, only very general provisions are employed. These laws are:

- Mosquitoes Ordinance, Cap 75 (1951 Rev.)
- Tsetse Fly (Control) Ordinance No. 34 of 1955
- Infectious Diseases Ordinance Cap 78 (1951 Rev.)
- The Volta River Development Act 1961 Act 46
- The Prevention and Control of Pests and Diseases of Plants Act 1965 Act 307

- Prevention of Damage by Pests Decree, 1968 NLCD 245
- Cocoa Industry (Regulation) (Consolidation) Decree 1968 NLCD 278
- Fruit Industry Decree 1969 NLCD 356

The last four laws authorise the uncontrolled use of pesticides and the 1965 Act goes as far as giving wide powers to the pest inspectors to "apply such treatment or adopt such measures as he thinks necessary for the purpose of preventing, exterminating or restricting any pest or disease."

As far as dangerous substances are concerned there are the Radioactive Minerals Ordinance, Cap 151 (1951 Rev.) and the Atomic Energy Commission Act 1963 (Act 204). These two laws are cited, not because they make provision for the prevention of pollution from those sources but to illustrate the fact that the potential for those types of pollutants exist. The first Act merely regulates the mining of radioactive minerals, while the second one establishes the Atomic Energy Commission. To date, no environmental health regulations have been made under these two laws.

8. Marine Pollution and Coastal Zone Management

Apart from the Oil in Navigable Waters Act 1964 (Act 235) Ghana has no legislation on this subject.

9. Air Pollution

There is no single law on this subject as it has yet to become a significant problem in the country. Although traffic congestion is on the increase there are no coal based industries, and little requirement for domestic heating. Some legislation touches on the topic of air pollution, but it is scattered throughout the Criminal Code, 1960 (Act 29): the Towns Ordinance, Cap 86 and the Factories Offices and Shops Act, 1970 (Act 328).

10. Industrial Pollution

Ghana is expanding its industrial activities with the result that industrial centers in Accra and Tema are experiencing industrial pollution (effluents, noise pollution, etc.). There is no legislation which deals with this subject. The Factories, Offices and Shops Act, 1970, referred to above, regulates the safety of workers, such as the prevention of inhalation of dusts, fumes, etc., rather than the protection of the general public and natural resources. The Manufacturing Industries Act 1971, Act 356 requires the issuance of a licence upon conditions and the EPC may require environmental concerns to be incorporated as one such condition.

The foregoing are examples of sectors in which relevant legislation has been identified. Admittedly, some sectors such as energy, fisheries, population and urban development, etc. have been omitted but this

is due to the fact that none of the existing legislation have adequate conservation management and environmental considerations to cover these subjects. Even though this review of laws has been brief and descriptive, rather than analytical, one observation can be made:- although the existence of legislative policy varies from sector to sector, one common theme can be found - the lack of adequate, current legislative provisions and regulations to deal with some of the problems discussed in Chapter Three.

CHAPTER EIGHT

CONCLUSIONS AND RECOMMENDATIONS

The following conclusions can be drawn from our research. First of all Ghana, like most developing countries, has adopted a policy of full utilisation of its natural resources to achieve its economic development goals. The interrelationships between development objectives and environmental or natural resource management concerns are most apparent in Ghana's predominant sector - agriculture. Here, sound land use practices, soil conservation measures and agricultural methods which are designed to provide sustainable development in that sector are the main policy objectives. Similar policies have been propounded for other relevant sectors such as health and social services, rural development etc. Secondly, with regard to institutional matters, the government has expressed a willingness to provide a sound institutional structure for environmental matters. With very few exceptions, all the natural resource and environmental issues have a competent government or quasi-governmental agency, department or unit with responsibility for policy implementation or programming. In addition, and perhaps most noteworthy of all, a government agency, the EPC, has been set up with responsibility for environmental matters in general and to coordinate the activities of these governmental and quasi-governmental institutions. In the CSIR, the government has created a structure to handle the research component of environmental concerns. Thirdly, on the legal and regulatory side of the environmental management cycle, there are many laws, some dating to pre-independence days, which deal with the majority of environmental questions.

In short, Ghana has the fundamental equipment (policies, laws and institutions) to provide a sound basis for the practical management of its environmental problems. However, upon closer examination of this structure, and from discussions with some officials in charge of implementing various aspects of this policy, it is evident that there are key areas where the legal and institutional structure could be strengthened. For this purpose, a few recommendations will be proposed. Some of these recommendations have been discussed with a few of the officials met on the trip to Ghana, others are new ideas. They are all meant to be thought-provoking and to generate a dialogue among the various institutions as to how the entire structure can be revitalised for better environmental management.

The first set of recommendations relates to the EPC. As noted earlier, the EPC is at a crossroads: it is becoming aware of the increasing magnitude of the environmental problems of the country, yet it is faced with an acute shortage of staff, inadequate inputs (transportation, lab equipment, etc.) and limited budgetary support. On top of all this, the Council's important initiatives designed to respond to legitimate Ghanaian needs are severely handicapped by the present mandate under which it operates, which gives it only advisory powers. If it is to become a more effective institution, the EPC will definitely require:

- 1) a broader mandate
- 2) a broader representation on the Council
- 3) an increased professional staff
- 4) a review of its location within the Government's organizational structure

- 5) an improved working relationship with the various institutions whose activities and programmes it is supposed to coordinate
- 6) an increased operating budget.

All these would be designed to make it a more operational (as opposed to advisory) institution.

Some of the above recommendations will be easier to achieve than others. For example, recommendation #2 relates to giving government agencies like the VRA, the Forestry and Wildlife Departments, etc. direct representation on the EPC. It is the first recommendation that presents the most difficulties. Some Ghanaian officials feel that the EPC was created not in response to a need that was felt for it in Ghana, but because it was necessary for the country to keep abreast of international trends and developments in the post-Stockholm era of the early 1970's. Since that time, the focus has shifted from international concerns to domestic ones; domestic environmental questions have multiplied and continue to do so at an alarming rate. The pertinent question raised is how to increase the EPC's mandate without infringing on or usurping the powers of other departments. This is a very important question because of some of the criticisms that have been levelled at the EPC - uncertainty over its role, narrow focus, etc. An answer to the question can be found in giving examples of cases where a wider EPC mandate would have had a positive impact: for example, the proposal for an EIS requirement would have been approved, and the environmental report on the proposed Bui dam would either have been prepared jointly with the EPC or it would have been presented

to the EPC, as a matter of course, for review. Other examples can be cited but the overall consensus is that the mandate should be widened. The mechanisms for achieving this wider mandate will involve one of two actions: either amending the 1973 Decree, or repealing it. The second alternative might be a more satisfactory method as it will provide an opportunity to start with a clean slate, incorporate the Government of Ghana's overall environmental and natural resources policy in the new Act and arm the new EPC which it creates with all the powers that are required to implement this policy.

Closely linked to the question of mandate is the EPC's location within the overall government structure. As noted earlier, some fears have been expressed that the EPC's present organisational setting as an adjunct of the Ministry of Finance and Economic Planning is inadequate. It is important to bear in mind that the sole purpose of relocating the EPC will be to raise its stature and to place it in a position of greater authority. One might expect that with a wider mandate this could be achieved. Under a new mandate, the EPC could become a fairly autonomous institution - a position analogous to the VRA's relationship to the Ministry of Lands, Natural Resources, Fuel and Power. Nevertheless, if the organisational structure is to be changed, four possibilities present themselves:

- (a) The EPC could be raised to ministerial rank;
- (b) The EPC could be relocated in a more suitable setting, e.g. as a department within the Ministry of Lands, Natural Resources, Fuel and Power; or

(c) The EPC could become an organisational adjunct of the Office of the President;

(d) The EPC will continue to be a part of the Ministry of Finance and Economic Planning but will be a more autonomous unit.

There are various arguments for and against these alternatives. One may have to create a super ministry if alternative a) is selected. Even if the financial and manpower resources required for a ministry can be deployed, it is not clear whether a ministry is the best solution. One major fear is that a ministry will tend to isolate environmental concerns from the development process (perhaps the same concern which prompted the location of the EPC within the Ministry of Finance and Economic Planning in the first place). The same criticism can be levelled at the third alternative, even though that may be an excellent solution for raising the stature of the EPC. The major drawback of that solution is that it places the EPC in a supervisory, rather than participatory, position in its relationship with other government departments. The only advantage of the second alternative is that it locates the EPC within a Ministry which deals solely with the exploitation of the country's natural resources. The drawbacks are that it does not necessarily give the EPC more powers nor more autonomy. The fourth solution may be the most desirable and is certainly the least disruptive one in as much as it does not propose the dismantling of an existing institutional set up. It is our opinion that these proposals should be subjected to extensive debate, by relevant institutions in Ghana.

The second set of recommendations relate to the overall institutional structure of the country as it applies to environmental matters. This review has shown that there is an abundance of government institutions with responsibility for environmental questions. In some instances, e.g. water resources management, there is a proliferation of institutions, while in others, e.g. coastal zone questions, there is a dearth of institutional coverage. What is required is a review of the present structure. First, an inventory will have to be made of all competent institutions, from high level policy-making ones, through research institutions to local government departments. After this stock-taking a thorough review should be conducted, and high level discussions should be held to decide on the best methods for streamlining the present system.

Next, there will have to be a reorganisation of the internal procedures of the competent agencies in order to facilitate a smooth coordination of their activities and a rapid flow of information from them to the EPC. One method for providing this free flow of information will involve the creation of a position of an EPC liaison officer within each relevant institution. This officer will be assigned the task of regularly reviewing various projects or programs of the institution which have an environmental impact or component. Such an officer should be assigned directly to the senior official who represents the appropriate Ministry on the EPC. In addition to carrying out project reviews, the environmental liaison officer should carry out research and other activities which would benefit and better prepare the senior official for the deliberations of the Council. By working closely with the EPC, the environmental liaison officer would ensure that projects sent forward to the Ministry

of Finance and Economic Planning have been reviewed by competent specialists and have benefited from a proper environmental assessment. In view of the shortage of staff with some background in environmental matters in the various institutions this recommendation may not be easily implemented. However, it is worthwhile to make an attempt which will ensure that relevant institutions and relevant officials within these institutions participate in the EPC's work. This exposure to the EPC's area of responsibility itself will provide a particularly useful learning experiment for such officials. Of course, it will be necessary also to provide these officials with ongoing training opportunities in the environmental field.

The third set of recommendations apply to environmental laws. Our research has indicated that legislative coverage in the environmental field is erratic. Legislation is adequate and up-to-date in certain sectors and non-existent or inadequate in others, e.g. coastal zone and marine pollution and land use management. There is no single enactment which sets out government policy and environmental quality objectives. The EPC is now supervising the preparation of environmental quality standards in certain key sectors, such as water. The work which was done by the faculty of law for the EPC was the first step in producing an inventory of laws. The next logical step ought to be a critical analysis of these laws, followed by a revision of outmoded ones. The overall objectives of this exercise will be two-fold. First, it will produce an overall environmental quality legislation which sets the tone for Ghana's environmental policy. This need not be a voluminous document - in fact it can be incorporated into the Act

which reorganises the mandate of the EPC. These laws will not of course provide the legislative provision that is required for all the sectors. It will merely provide the guidelines. Hence, the second objective will be to define areas or sectors where new legislation is required. After the required research has been done, these laws should then be drafted. If these two activities are carried out in a systematic fashion the end result should be a better organised legal structure for environmental and natural resources management in Ghana.

To conclude, these proposals are offered, not as fixed solutions for strengthening Ghana's legal/institutional mechanism for dealing with its environmental problems, but as examples of methods by which that objective can be achieved. Some of the proposals, (for example the training needs of the EPC, provision of lab equipment, library facilities, etc.) are more suitable for external aid than others. Others can be easily achieved if creative minds in Ghana are applied to the problem. All of them require serious consideration before implementation, in order to ensure that more effective variation of them has not been overlooked. Whatever is done, this report will have served its purpose if a more effective legal and institutional structure for environmental conservation emerges.