

PN-ARE-584

12487

510

PROTECTION OF THE HUMAN ENVIRONMENT - THE AFRICAN PERSPECTIVE

Case Study by JOHN C. LEARY

Leary, John C.

AFR

600.5745 Dept. of State. Foreign Service Institute.
L437 Protection of the Human Environment --
The African Perspective. John C. Leary.
1973.

14 p.

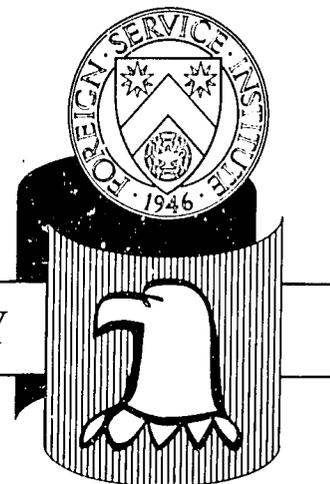
Prepared for the Senior Seminar in Foreign
Policy, 15th Session, 1972-1973.

1. Environment and international development - AFR.
2. Ecology - AFR. 3. Pollution - AFR. I. Leary, John C.
- II. Title.

FIFTEENTH SESSION

SENIOR SEMINAR IN FOREIGN POLICY

DEPARTMENT OF STATE



1972-73

TABLE OF CONTENTS

	<u>Page</u>
I. Introduction	1
II. Africa's environmental concerns	3
A. Urbanization	4
B. Wildlife preservation	5
C. Soil and water conservation	6
D. Industrial pollution	7
III. National organization to deal with the environment	9
IV. International aspects of environmental protection	11
V. Conclusions	13

I. INTRODUCTION

Ecology, protection of the human environment, and improvement in the quality of life--once topics of interest primarily to professional conservationists and social philosophers--have in recent years become matters of everyday concern to policy makers around the world and, especially, in the advanced, highly industrialized countries. As their citizens have become aware of the price they have paid for their material affluence--foul air, polluted water, urban congestion, noise, and excessive disruption of natural ecosystems--they have pressed governments to meet existing and potential future problems with new regulations and controls and longer-range anticipatory planning.

The responses to these pressures often have important international ramifications. One country's attempt to limit pesticide residues in food products, for example, may well be viewed by another country as an unnecessary and unreasonable interference with the normal flow of trade. Issues such as the extent to which environmental norms can and should be established and how the costs of protecting the environment should be allocated have been under study in various international forums for some time. They are bound to become an increasingly important factor in relations among nations.

The United Nations Conference on the Human Environment, held at Stockholm in June 1972, dramatized and focussed global attention on these issues. The 113-nation conference listened to national reports detailing the multiplicity of problems with which the member governments were faced and the obstacles to their solution. Before concluding, it adopted a Declaration on the Human Environment, a set of 26 environmental principles, and 109 recommendations on subjects ranging from the planning and management of human settlements and the identification and control of pollutants to conservation of wildlife and natural resources. In essence the Conference called for greater awareness of the problems and potential problems and acceptance of individual and collective responsibility for action to alleviate them.

To assure continuing attention to these issues, the Conference recommended, and the UN General Assembly subsequently approved, the establishment of a UN environmental program with a secretariat to be headquartered in Nairobi, Kenya, and an environmental fund of up to \$100 million to which the United States has pledged to contribute 40 per cent on a matching basis over a five-year period.

The principal initiatives for national and international action in the environmental field have come, understandably, from the developed countries of North America and Europe and Japan. The poorer, developing countries have generally played a passive or, perhaps more accurately, a defensive role. At Stockholm, which was portrayed by some as a confrontation between the haves and the have-nots, the developing countries--alarmed by the "no-growth" implications of some of the extreme environmentalist positions--devoted their greatest effort to establishing the principle that environmental policies should enhance and not adversely affect their development potential. They also fought hard and successfully for Nairobi as the site of the new UN secretariat but their position was generally conceded to be based on political rather than substantive considerations.

Questions therefore remain about the attitudes of the developing countries. To what extent do they recognize and associate themselves with the concerns expressed at Stockholm? What are their most pressing environmental problems at home? Are they organized to deal effectively with these problems? What obstacles do they face? How are they reacting to environmental actions of other countries and international organizations that may impact on their trade and development? How interested are

they in practice in international cooperation? What role do they envisage for the new UN environmental program and fund?

The present study is an attempt to answer some of these questions from the standpoint of a selected group of African countries. It reflects impressions gained during a three-week trip in April 1973 to Geneva, temporary headquarters of the UN environmental secretariat pending its transfer to Nairobi toward the end of 1973, Addis Ababa (Ethiopia), Nairobi (Kenya), Kinshasa (Zaire), Lagos (Nigeria), and Abidjan (Ivory Coast). The impressions are based largely on conversations with several dozen persons--international civil servants, foreign and American officials, and private citizens--in the African capitals.

There is an obvious danger in generalizing on the basis of such limited exposure. Two or three days in the capital city is not long enough to meet more than a relative handful of people or to gain more than a tentative feeling for the problems of the country as a whole. While those that were interviewed were knowledgeable and articulate, they were selected in most cases because they have a known interest in environmental issues and there is, of course, no guarantee that they represent a complete cross-section of opinion. Finally, the reader must take the word "African" in the title of the study with a certain reserve. The five countries studied have a total population of about 125 million, a substantial portion but by no means all of Africa. Visits to other countries would undoubtedly have revealed additional unique problems and ideas.

Despite these qualifications I am hopeful that my findings will contain some fresh insights and be of interest and assistance to those who must grapple with the concrete problems of international decision-making in the coming months.

II. AFRICA'S ENVIRONMENTAL CONCERNS

A Nigerian official commented to me that "it is all very well for our representatives at international meetings to argue that environmental pollution is only a problem for the advanced countries and that nothing should be done to inhibit us poor countries from developing, but we have only to look around us to see that we too are already faced with enormous environmental problems." Indeed, even to the short-term visitor the signs are obvious--the oil-soaked sands on the beaches near Abidjan; the heaps of dirt clogging the streets in the outskirts of Kinshasa as a heavy rain washes soil from the denuded hills around the city; the swirls of dust in Nairobi National Park where tourist vehicles on a busy weekend chew up the vegetation of that delightful game preserve; the clutter, sounds, and smells of the shanty towns that are mushrooming around Lagos, Addis Ababa, and the other capital cities; the construction worker hunkered on the bank of Abidjan's beautiful lagoon, his only available toilet facility.

In each of the five African countries that I visited I found a group of informed, articulate, and dedicated individuals--both native and expatriate--grappling with environmental problems. In general they expressed only academic interest in the "global" issues that tend to head the priority lists of outside environmental experts--for example, the problem of "desert creep," the encroachment of the Sahara and other deserts into previously fertile areas--but do not affect them directly. Their attention was concentrated almost entirely on problems of direct, immediate, and visible concern in their own countries, the kinds of problems which must be dealt with essentially in a national context.

Although national priorities varied, there were striking similarities in the lists of problems to which the individual countries are devoting their energy and resources: excessively rapid urbanization of the population and its attendant economic, social, and political problems; non-scientific destruction of natural resources, particularly wildlife resources; the adverse impact of inefficient agricultural practices on soil and water resources; and, increasingly, industrial pollution. There was also much concern about contamination of the coastline resulting from off-shore discharges by oil tankers and, especially in West Africa, about the undisciplined exploitation of fish resources by Japanese and other foreign fishermen; African officials recognize, however, that these problems can only be dealt with effectively on the international level and they are placing much of their hope in the upcoming UN Conference on the Law of the Sea.

Just as the problems tend to be similar from country to country so are the obstacles to arriving at acceptable solutions. One Ethiopian official summed up his frustrations by saying, "It all boils down to money." This, of course, is not an adequate explanation although there is no doubt that lack of financial resources can be an important impediment to action in countries with extremely low per capita incomes hovering around \$100 annually and large segments of the population not yet involved in the money economy.

It is clear that there are many other impediments: an absence of the institutional mechanisms necessary to ensure coordinated attention to environmental considerations; a shortage of trained people--not only environmental specialists but administrators, accountants, clerks, etc.; an inadequate legislative framework on which to base rational controls and enforcement; a lack of environmental consciousness at the political level and among the general population; traditional cultural patterns and attitudes; very real conflicts between competing domestic political and economic interests; and varying degrees of ignorance, apathy, bureaucratic inefficiency, and corruption.

A. Urbanization

Although statistical measures are admittedly imperfect, officials estimate that the populations of the capital cities of the five countries are growing at annual rates ranging from more than 7 per cent in Addis Ababa and Nairobi to 10-12 per cent or even higher in Lagos. These populations have doubled or tripled in the few short years since independence as increasing numbers of rural residents have given up subsistence agriculture in the interior and sought a better life in the city. In some cases the problem has been exacerbated by an influx of legal or illegal immigrants from even poorer neighboring countries. An Ivorian cabinet minister estimates, for example, that of the approximately 50,000 new arrivals in Abidjan in 1972, some 18,000 came across the frontiers from such countries as Guinea, Mali, and Upper Volta.

Rapid urbanization brings with it the interrelated problems of overcrowding, disease, unemployment, and crime and puts an intolerable strain on an already inadequate urban infrastructure--housing, schools, water supply, waste disposal, health facilities. While many of these problems sound familiar to those who know the ghettos of the large northern cities in the United States, the difficulties are multiplied in the poor African countries where financial resources are grossly inadequate to cope with the problems, trained people are in very short supply, and the general level of public understanding is still primitive. As Kenya reported at Stockholm "...municipal resources--financial, technical, and administrative--are completely overwhelmed by the problem of providing the most basic of services and shelter...."

Concentration of new industries in or near the major population centers encourages the in-migration from rural areas. One Ethiopian official commented that every time the Emperor announces with appropriate fanfare the opening of a new factory providing 100 jobs, 1,000 subsistence farmers head for the city in the expectation of filling those jobs. Most countries are encouraging dispersal of industry in hopes of curbing some of the population flow to the capital (as well as relieving the direct pollutive impact of the industries) but they have not been notably successful. Kenya, as part of its 5-year development plan has been pursuing rural electrification and agricultural development with the objective of reducing urban/rural income disparities and hopefully reducing the incentive to leave the rural areas; resources are scarce, however, and while rural development has made some progress, the migration continues. More direct methods such as destruction of squatter villages on the peripheries of the cities has been no more successful; new shanty towns quickly arise. Similarly, in Ethiopia, attempts to round up the beggars that dot the streets of Addis Ababa and return them to the countryside at government expense have been of little avail; despite the urban hardships they apparently consider themselves better off begging in the city than engaging in subsistence agriculture.

A complicating factor is that the concept of government responsibility for social welfare is a relatively new concept in most African countries and not well entrenched. In Ethiopia, for example, a new agency has been established to develop and coordinate social welfare programs but its staff and budget are small and the agency head estimates that almost 90 per cent of welfare services in the country are provided by voluntary agencies and missionary groups. Significantly, officials in all five countries commented on the extent to which the urban migration has resulted in a breakdown of the traditional extended family system which formerly provided mutual support to its members but no longer operates for many of those who have left their rural communities for the big city.

Public education would appear to be a prerequisite to solving many of the urban problems. "People from the countryside simply don't know how to

live in the city," said an Ivorian official. A Nigerian medical officer, commenting on the public health problems of Lagos, said that there is a positive correlation between socio-economic class and the willingness of people to take advantage of available health facilities. It is difficult to administer essential immunization programs because many of the urban immigrants avoid the facilities until they are sick. On the other hand Lagos officials claimed considerable success in obtaining citizen cooperation in a clean-up-the-city campaign; they have run into difficulty not because of public apathy or antagonism but because the refuse collection agency is not equipped mechanically or organizationally to cope with the quantities of refuse heaped up in the city.

Despite the very difficult problems the Africans face in coping with their urban environment crises, the picture is not all black. Sewer systems, water treatment plants, health clinics, public housing, and schools are being built, and, in talking with African officials concerned with these problems, one gets an impression of vitality and progress.

B. Wildlife Preservation

All five countries have national park systems and programs of wildlife conservation. Ethiopia, Kenya, and Zaire are putting special emphasis on this sector. In part they are motivated by a desire to preserve the "pure state of nature" that President Mobutu of Zaire has compared to Europe's cathedrals and monuments as Africa's true heritage. But economic considerations are at least as important.

Kenya's success in attracting hundreds of thousands of foreign visitors annually to its game preserves and developing its tourist industry into one of the country's chief foreign exchange earners has been well noted elsewhere. Ethiopia is developing additional parks and Zaire's long-range policy objective is to expand the area devoted to nature preserves from less than 5 per cent of its national territory at present to 12-15 per cent.

"Game cropping" is attracting increasing attention. Experiments with scientific management of game ranches has seemed to demonstrate that in the African environment game animals yield a significantly higher production of lean meat at less direct cost and with less damage to vegetation and soil than cattle. Controlled shooting of game animals can also bring economic benefits from the sale of skins, ivory, etc.

African conservationists and expatriate experts express frustration that the effective control and sound management of wildlife resources is inhibited not only by a shortage of financial resources and manpower but by misunderstanding, inadequate laws and regulations, conflicts with traditional agricultural interests, and encroachment by a growing population and infrastructure. Examples are legion.

Many new park areas already have a substantial human population. To move these people out and provide them with a means of livelihood and necessary services is a difficult and costly process. Ethiopian, Kenyan, and Zairean officials all laid stress on this problem. Even settlements outside the parks may interfere with conservation, especially as they grow, because they often impinge on animal migration patterns.

In Ethiopia, many of the rural inhabitants move in nomadic groups seeking adequate grazing for their cattle and utilizing a slash-and-burn agricultural technique which over time lays waste large areas of forest and range land and exacerbates the effect on water supplies and vegetation of the cyclical drought with which the country is faced. These groups

frequently violate the park boundaries in search of food and fertile soil. They resent attempts to exclude them from traditional lands and see no reason why they should not shoot the wild animals that damage their flocks and crops. According to some the government has not been sufficiently vigorous in enforcing the rules but as one official said: "If it is a question of preserving the wild animals or letting our people and their cattle starve, we have little choice."

In large areas of Kenya and Ethiopia cattle are considered signs of wealth and status and there is great overstocking of livestock. The conservationists argue that these animals are not biologically well suited to the land, put excessive pressure on water resources and vegetation, and introduce diseases which have had a drastically adverse impact on wild animals. But the pattern is difficult to change. In simple political terms the problem is frequently seen as one of animals versus people. As one Kenyan said, "Most of our politicians come from rural areas. They understand the traditional farmer's point of view and want his vote in the next election."

Poaching is a serious problem. Much of the report of the director of the Ethiopian Wildlife Organization for the period ending in March 1973 is devoted to a description of anti-poaching activities (establishment of a skin traders' association, registration of skins and trophies, organization of mobile patrols, stricter penalties) and urging the cooperation of other agencies including the police and military because the Wildlife Organization is inadequately equipped itself to enforce its anti-poaching measures fully. Dealing in illegal skins is a lucrative business. Properly trained and motivated game wardens are in short supply. There are allegations of collusion between poachers and the authorities. Officials in both Ethiopia and Kenya find existing anti-poaching legislation inadequate. Poachers are prepared to risk the penalties because of the great profit to be realized. In both countries new legislation has been introduced to correct the situation but there are conflicting political interests and the fate of the legislative proposals is uncertain. In Zaire conservation authorities say that they consider their legislative authority satisfactory. Among other provisions it gives game wardens a cut of fines levied on convicted poachers. Nevertheless, as a practical matter enforcement is difficult, even dangerous; 23 wardens are reported to have been killed defending the sanctity of Zaire's national parks.

C. Soil and Water Conservation

Many of the same factors that complicate the lives of the game conservationists are at the root of the problem of soil and water conservation in Africa. They include nomadic movements of people, overgrazing by domestic livestock, and slash-and-burn agricultural techniques. Decimation of the forests is also a contributing factor.

The problems are particularly severe in Ethiopia and Kenya because of their topography--large highland plateau areas covered by thin layers of topsoil. Destruction of vegetation leads to rapid erosion from wind and rain. Experts in Kenya estimate that cultivated areas may be losing as much as 2 kilos of topsoil per square meter annually.

Massive soil erosion is doing serious damage to rivers, lakes, and reservoirs. In Kenya sediment from the Sabaki river is silting the coral reefs and beaches near the river's mouth and threatening the tourist industry in the area of Malinde. Dredging is a monumental problem and French and Swiss firms are currently examining the feasibility of protecting the beaches with dams.

As in the case of wildlife preservation, positive action to deal with these problems is inhibited by such things as lack of public understanding, cultural traditions, and political influence. In Ethiopia, where some attempts have been made to move nomadic groups into permanent settlements, the existing system of land tenure has proved to be an impediment. Land is owned by a relatively few families who permit the land to be occupied and developed but exert their claim and exact a high share of the proceeds once the land becomes productive. Land reform is an extremely touchy political issue in Ethiopia.

D. Industrial Pollution

The five African countries are in only the beginning stages of industrial development and do not yet have major industrial pollution problems, with the exception of Lagos, which has acquired 200 new industries in very recent years, and Abidjan. (In these two cities the combination of rapid population growth and industrial expansion have wreaked havoc on adjacent waters.) None of the countries has yet developed systematic regulations and standards regarding industrial effluents but, while the environmentalists in all of the countries continue to have problems with the development-oriented ministries, there is a growing understanding that prevention is preferable to cure and much attention is being given to appropriate policy approaches.

In Nigeria, for example, the industrial inspectorate in the Labor Ministry has authority to advise on pollution standards and is in the process of surveying the problem although it has not yet come up with concrete proposals. The University of Lagos has done a study on growth policy which identified 27 cities and towns outside of Lagos that could be developed into industrial centers. Suggestions have been made that government offices and new industries be established in these locations to reduce pressure on Lagos. The official policy is in fact to encourage dispersal of industry but there are obvious difficulties in its implementation including in particular a lack of infrastructure in the interior.

Ivory Coast inherited a dirigistic tradition from the French and according to one official has the potential to regulate industrial effluents effectively. It is attempting to impose requirements regarding the treatment of industrial wastes before they are discharged into the Abidjan lagoon and, like Nigeria, to encourage dispersal of industry to the interior but the efforts appear to have been ad hoc and to have shown little result as yet. Like their Nigerian counterparts, Ivorians suggest that the problem of effective enforcement is largely one of economics.

Kenya is not yet faced with serious problems but is actively considering the possibility of establishing guidelines on industrial effluents. It, of course, faces the same economic dilemmas as other countries. A leading politician with responsibilities in the industrial area, who himself is aware of the need for environmental protection, put it in a nutshell: "Unemployment in our cities is our most serious problem. If an investor who cannot meet pollution standards offers to establish a plant which will provide 500 new jobs, I would find it difficult to refuse him." The environmentalists think that the issue need seldom be posed in such stark "environment versus development" terms.

To the extent that Ethiopia has problems in this area they relate to water pollution from industrial effluents. Little action has been taken. A WHO expert who reported that effluents from a tannery on the Awash River were killing fish had difficulty stimulating any official reaction. As one international civil servant summed up: "Progress is difficult without serious and concentrated efforts of the policy makers." Environmentalists are hopeful that a pending reorganization of water resources activities which would bring all interested ministries into the policy making process on a coordinated basis will be helpful.

Zaire has evidenced its concern for environmental protection at the highest levels of government but apparently has not yet taken significant action to control industrial pollution. The manager of a new American-owned plant in Kinshasa, which is engaged in potentially highly pollutive production, said that Zairean authorities had asked no questions about the plant's environmental impact before it was established. In this case, however, the parent firm had decided for its own reasons that it would make the plant a model for Africa and it has introduced the latest emission control devices. Since the plant enjoys a virtual monopoly in the local market, the economic consequences of this decision have not yet been fully tested but the political benefits are obvious.

III. NATIONAL ORGANIZATION TO DEAL WITH THE ENVIRONMENT

Among the African environmental experts there is a fairly wide consensus that their national governments are not yet organized to deal effectively with the broad and interrelated aspects of environmental issues. In most of the countries new institutional mechanisms are being put into place or are under active consideration.

Kenya formed an ad hoc Working Committee on the Human Environment prior to Stockholm. The Committee was chaired by the Minister of Natural Resources and produced one of the best of the national reports. Plans are now being made to establish a permanent high-level national body to ensure a coordinated approach to environmental issues in the future. The precise form, composition and terms of reference are still being debated but the objective is to have a body relatively free of parochial influence and with sufficient stature and authority to impact on policy-making throughout the government. Among the alternatives being considered are a new body attached to the Office of the President and a cabinet-level committee chaired by the Minister of Finance and Planning. Kenya has also decided to include for the first time in its 5-year development plan for 1974-78 a chapter giving an overview of environmental issues. The experts hope that the sectoral chapters will also give due consideration to environmental implications.

Kenyan officials say that the location of the new UN secretariat in Nairobi has been an important stimulant to high level interest in environmental questions and poses a challenge to Kenya to act in model fashion. One commented, however, that this is not entirely an unmixed blessing since, with political prestige to be gained now from association with environmental activities, there is more than the usual bureaucratic jockeying for position, one of the factors that has delayed a decision on the new high-level body.

Nigeria, which outside observers rank with or perhaps ahead of Kenya in its forward-looking approach to environmental issues, has a number of agencies actively focussing on the issues, particularly the National Council for Science and Technology and its Ecology Committee and the Ministry of Health. There is recognition of the need for more adequate coordination of activities, however, and the press has been editorializing in favor of a Federal Advisory Council on the Environment. Environmental experts say that this idea has been around for two or three years but is now under active consideration. There are still bureaucratic obstacles to be overcome but the experts are optimistic that a positive decision will be made soon to establish the Council at cabinet level with representation from all of the concerned ministries. They look upon this as an important step because "one needs not only the know-how but also the authority in order to be effective."

In Zaire, President Mobutu has taken a personal interest in ecology and an Environmental Office has been established in the Office of the President. Additionally, in 1972 the Institut National pour la Conservation de la Nature (National Institute for Nature Conservation), originally created in 1969 to establish and administer the national parks, was placed under the direct authority of the President and given an expanded mandate in such areas as air and water pollution and soil erosion. Detailed guidelines remain to be worked out, however.

Early in 1973 Ivory Coast established a Committee on Environment at cabinet level under the general direction of the Minister of Planning to develop recommendations and coordinate policy. The Committee has not yet begun to operate, however, and as in other countries there is apparently a good deal of bureaucratic infighting regarding the allocation of responsibilities.

Ethiopia does not yet appear to be considering a mechanism for general surveillance of environmental policy--important decision-making is highly centralized in any event--but there are attempts to pull together varied interests at the sectoral level. A Rehabilitation Agency was formed in 1971 to take over social welfare functions, including in particular those related to urbanization, formerly performed by such agencies as the Ministries of Public Health, National Communities Development, and Interior and municipal authorities. Its policy board includes representation from all interested agencies. Similarly, the UNDP is advising the Water Resources Department on a reorganization plan which would provide for greater coordination in development of proposals and projects for the optimum use of water resources.

IV. INTERNATIONAL ASPECTS OF ENVIRONMENTAL PROTECTION

In contrast to their active and detailed preoccupation with specific domestic environmental problems, the African officials with whom I talked appeared in general only marginally interested in the international aspects of environmental activity.

None were aware of any damage to their country's trade as a result of action by other countries to strengthen and enforce environment-related standards. The exports of all five countries to the developed countries are still almost entirely primary products and raw materials--cocoa, coffee, palm oil, timber, minerals, etc. Their limited exports of manufactures go principally to neighboring countries which have not themselves developed standards to any significant degree. The Africans will undoubtedly remain alert for potential trade problems but these are not yet of immediate concern.

I found only limited awareness of the new policy of the World Bank to require an identification and analysis of environmental considerations on all new project proposals but, at the same time, no objection in principle to this type of approach by the Bank or other aid donors. In fact, Kenyan officials who are attempting to develop internal environmental criteria for industrial projects expressed interest in learning more about the tentative sectoral guidelines that the Bank recently published and in working with the Bank in this area. All who commented stressed, however, that there could be no attempt to impose universally applicable norms, that the environmental implications of each project should be viewed in their total geographical, economic, cultural, and political context, and that the final decision on what constitutes an acceptable environmental risk must rest with the recipient country.

The Stockholm Conference received high marks except in Ivory Coast where several officials took the position that the Conference had had little practical impact and one suggested that it had been counterproductive because it had deflected the attention, time, and energy of local authorities from their pressing problems at home. Elsewhere, however, the environmental experts were unanimous in the belief that the Conference had been most useful in raising the environmental consciousness of their political leadership and thus facilitating their own efforts to influence policy making.

Comment on the new UN environmental program was in general quite cautious, probably in part because the program's Governing Council will not hold its first meeting until June 1973 and as a result no decisions have yet been made on the program's work priorities and methods of operation. None of the Africans volunteered a view on the environmental fund. Clearly they would welcome financial support from the fund but their expectations are modest. Those who commented under questioning seemed to think that the money will be devoted to research and training projects which, while useful, will be only indirectly relevant to their immediate problems.

The UN Economic Commission for Africa and the Organization of African Unity are actively promoting regional cooperation in the environmental field. National officials generally endorsed the ECA concept of an All-Africa Steering Committee which would, among other things, attempt to assure a degree of inter-country comparability with respect to laws and regulations related to environmental standards. Support was especially strong in Kenya which is developing its own standards and recognizes that significant differences between countries can, for example, influence investment decisions; Kenya would not like to lose an investment because it imposed stricter environmental standards than a neighboring country. Apart from this, the experts tended to take a pragmatic approach to regional and sub-regional cooperation. They recognize in principle

the value of an international exchange of ideas, information, and experience and of operational cooperation but emphasize the need to focus on concrete issues. There are a number of sub-regional arrangements already in place: an Ethiopia/Kenya Joint Consultative Committee which meets periodically to discuss and take action on such matters as poaching and the cross-border migration of wild animals; a 5-country hydrometeorological survey in East Africa under WMO auspices; and water resource bodies such as the Niger River and Chad Basin Commissions. African officials suggest that future regional cooperation should be approached in similar fashion; that is, by defining the region or sub-region in terms of the particular problem to be faced and organizing on the basis of the mutuality of interest of the governments concerned.

None of the foregoing should suggest any lack of enthusiasm for bilateral and multilateral project assistance. The Africans welcome the help they have been getting from the specialized agencies and bilateral donors. During my conversations there were numerous favorable references to past and present projects undertaken in cooperation with WMO, WHO, FAO and various European countries as well as the United States. No doubt the Africans will look for an expansion of such assistance in the future.

V. CONCLUSIONS

Bearing in mind the qualifications expressed in the introduction about the relatively limited extent of my exposure to the African scene, I venture to offer a few concluding thoughts on African attitudes and their institutional and substantive implications.

1. The widespread notion that Africa views accelerated economic development as the answer to its problems and has little or no concern for the environmental implications is over-simplified and misleading, if not downright false. All of the African countries surveyed attach high priority to development. But there is a strong and growing concern about the environmental problems already visible at home and an increasing tendency to accept the thesis put forward by Robert McNamara at Stockholm that a response to valid environmental considerations need not be incompatible with economic development and that, indeed, the developing countries are in a position to avoid some of the more costly and needless past mistakes of the advanced countries.
2. The environmentalists in Africa are being heard more loudly and clearly but there is a recognized need in most countries for improved institutional mechanisms at the national level with sufficient authority to ensure adequate attention to environmental considerations in all sectors of policy making. Domestic political considerations--prestige, face, factional conflicts, bureaucratic jealousies--will be important in shaping the decisions. Outsiders may be able to encourage and assist this institution-building process but should recognize the political implications and proceed with discretion.
3. There is a continuing need in most countries for heightened environmental consciousness at the political level and for educating the general public about the consequences of environmental deterioration. This is primarily a problem for the countries in question but it seems appropriate to consider how U.S. diplomatic and information efforts could contribute without being preachy or self-serving.
4. Some environmental problems can best be attacked on a global or regional basis and it often seems most convenient for the international agencies and bilateral aid donors to concentrate attention on these. The individual African countries have lists of priority problems which must be dealt with essentially on the national level, however. Aid donors can expect to receive requests for technical and financial assistance and training related to these priority problems and would do well to give increased attention to African priorities.
5. The World Bank's policy of analyzing the environmental impact of new project proposals is desirable and appears to be politically acceptable. Bilateral aid donors should consider pursuing parallel policies. Environmentalists in the recipient countries would probably welcome such policies as long as they remain sufficiently flexible and do not interfere with the ultimate right of the recipient to make its own decisions regarding the acceptability of domestic environmental risks.
6. International cooperation on the environment should not be over-institutionalized. International agencies can usefully dramatize and focus attention on important problems, but undue expansion of the international bureaucracy can be counterproductive in terms of concrete results, particularly when it drains off already scarce trained manpower from the developing countries. The apparent intention of the UN environmental secretariat to remain small and work with and through established global and regional organizations makes sense as does the sentiment detected in Africa for approaching regional

and sub-regional cooperation in precisely-defined and concrete terms.

7. The development of African thinking on environmental questions carries interesting implications for American commercial interests. Important export opportunities are likely to open up as plans for improving and protecting the environment are implemented. There should, for example, be significant demand for equipment related to sewage and waste disposal systems, water treatment facilities, and effluent controls. American firms will have to remain alert for such opportunities and be prepared to meet foreign competition aggressively, especially in countries such as Ivory Coast where French interests traditionally have dominated the market.

8. American investors will also do well to watch developments carefully and take environmental considerations into account in developing new projects in Africa, even where this may not yet be required by the local government. Conditions of entry are undoubtedly going to become tougher over time in most countries and anticipatory planning, to the extent that costs and competitive conditions permit, can be expected to pay off in terms of local good will and avoidance of future headaches.