

Urbanization Issues and Development in Sub-Saharan Africa

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URBANIZATION ISSUES AND DEVELOPMENT IN SUB-SAHARAN AFRICA

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List of Acronyms

AFR/SD	Sustainable Development Office of USAID Africa Bureau
CILSS	Interstate Committee for Drought Control in the Sahel
CSIR	Committee for Scientific and Industrial Research
D&G	Democracy and Governance
E/NRM	Environment/Natural Resource Management
EDI	Economic Development Institute of the World Bank
EIS	Environmental Information Systems
EMP/UMP	Environmental Management Network/Urban Management Program
EPM	Environmental Planning and Management
EU	European Union
GHAI	Greater Horn of Africa Initiative
GII	Global Information Infrastructure
HCP	Healthy Cities Program
IAGU	Institut Africain de Gestion Urbaine
ICLEI	International Council for Local Environmental Initiatives
IGAD	Intergovernmental Authority for Development
IIED	International Institute for Environment and Development
IR	Intermediate Result
ISA	Initiative for Southern Africa
ISP	Internet Service Provider
LEAP	Local Environmental Action Plan
LIFE	Local Initiating Facility for Urban Environment
MDP	Municipal Development Program
MDS	Multi-Donor Secretariat
MEIP	Metropolitan Environmental Improvement Program
MELISSA	Managing Environment Locally in Sub-Saharan Africa
NEAP	National Environmental Action Plan
NESDA	Network for the Environment and Sustainable Development in Africa
NPI	New Partnerships Initiative
PNRM	Plan for Supporting Natural Resources Management in Sub-Saharan Africa
RHUDO	Regional Housing and Urban Development Office
RUDO	Regional Urban Development Office
SADC	Southern Africa Development Community
SCP	Sustainable Cities Program
SO	Strategic Objectives
SSO	Special Support Objective
UEF	Urban Environmental Forum
UHF	Urban Environmental Forum
UMP	Urban Management Program
UN	United Nations
UNCHS	United Nations Centre for Human Settlements
UNDP	United Nations Development Programme
UNEP	UN Environmental Program
UNEP/GRID	Global Resource Information Database
WRI	World Resources Institute

Preface

Purpose and Scope of the Study

The basic purpose of this study is to assist the Africa Bureau in examining the broad environmental dimensions of urbanization and urban development in sub-Saharan Africa. The study is intended to provide the Bureau's Office of Sustainable Development (AFR/SD) with a useful analysis of urban-rural linkages and with guidance in addressing the environmental dimensions of current development challenges related to African urbanization.

The study is intended to provide AFR/SD with an initial set of concepts and strategy elements that can be used to build upon potential linkages between E/NRM program activities and population/health, democracy and governance (D&G), economic growth and urbanization programs. The study includes an examination of USAID's prior urban activities and programs in Africa, as well as ways to capitalize on ongoing USAID support for Managing the Environment Locally in Sub-Saharan Africa (MELISSA), the "Making Cities Work" initiative and related efforts. Additional needs and opportunities in the urban sector that go beyond housing, municipal finance and city planning are also identified.

Major tasks from the Scope of Work for this study include:

- review of existing information on urban issues through documents available in the G/ENV office and interviews with key individuals;
- review of a set of African case studies prepared for the UNEP/UNCHS Sustainable Cities Program and identification of potentially useful examples;
- review of World Bank and other donor efforts to address urban issues through available documents and interviews with key individuals;
- investigation of ways in which USAID can build upon urban-rural linkages and other program synergies to address health, sanitation, water and other urbanization issues;
- preparation of a draft concept paper and preliminary program strategy to guide USAID's approach in addressing the urban dimensions of AFR/SD Strategic Objective 5 and the cross-cutting Strategic Support Objective; and
- organization of a brainstorming session in Washington to review the draft paper and to discuss the preliminary findings and recommendations.

Executive Summary

Introduction

Sub-Saharan Africa is currently in the middle of the most important demographic and economic transition in its history. This ongoing, societal change is a virtually irreversible historical event that affects all countries in the region. It is characterized by high population growth, widespread urbanization and very rapid growth of the largest or primate cities. Some of the major forces that have driven and will continue to drive this transition include the:

- ongoing agrarian crisis;
- mass migration towards large and primate cities;
- widening gap between population and economic growth;
- absence of newly industrializing countries with dynamic cities; and
- inability of surplus population to emigrate to less populated countries.

Sustainable development in Sub-Saharan Africa cannot be achieved until the urgent problems of poverty and inequality within its cities have been addressed. A comprehensive perspective is required that integrates environmental, social and economic goals based on an understanding of the critical linkages that exist between these goals and the manner in which they relate to both urban and rural areas. Newly emerging urban Africa and its linkages with rural hinterlands and the natural environment present a tremendous opportunity to develop new, ecologically sound societies based on: 1) minimizing the use of non-renewable resources, 2) developing alternative renewable resources, and 3) creating technologies, practices and products that are durable, safe and responsive to the genuine needs of the population..

Principal Environmental and Economic Issues

Sub-Saharan Africa is faced with a wide range of strategic choices related to urbanization, economic growth and the environment. None of these choices will be simple “either-or” decisions. Most of them will require an appropriate balance to be established between seemingly contradictory orientations. Only a truly cooperative and collaborative effort between the international, national and local communities will lead to the achievement of productive and sustainable results. The following nine environmental and economic issues have been addressed in this study.

Globalization and Self-Sufficiency

While the lack of foreign investments, a negligible involvement in international trade, and a steep decline in export revenue, coupled with limited domestic savings and investments, have plagued Africa in the past, a new sense of commitment now exists to connect Africa to the global economy. Africa may soon be poised to share in the mostly urban-based, technological advances that are being achieved through globalization.

Exports, Trade and Import Substitution

An effective balance needs to be established between policy and investment priorities that promote the production of necessary exports to repay international debt and those that encourage the development of products for domestic consumption as a means to replace unnecessary imports and foster greater self-sufficiency. Recent evidence indicates that foreign investment may be rising on the continent, and in the foreseeable future the economic picture may change for the positive.

Traditional and Modern Patterns of Consumption

Evolving patterns of consumption will determine the essential balance to be reached between export and import substitution throughout sub-Saharan Africa. This creates an urgent need to redefine the direction of development in order to avoid the growth of exorbitant, wasteful patterns of consumption and to achieve a progressive reduction in the un-ecological exploitation of resources. Sub-Saharan governments need to take actions that will encourage the use and consumption of locally made products as opposed to those coming from abroad.

Natural Resource Inputs and Urban Waste Outputs

The most critical environmental relationship between sub-Saharan cities and their rural hinterlands involves the cycle of natural resources and wastes that flow between them. Urban areas are man-made ecosystems that depend on the surrounding natural and agricultural ecosystems to supply the renewable and non-renewable products, resources and goods that they need (e.g., minerals, fossil fuels, air, water and food) and to provide the very important biological, physical and chemical processes that ensure sustainability (e.g., biological decomposition, photosynthesis, mineral cycling and gaseous exchange).

The relationship between urban resource use and waste provides a tremendous challenge and opportunity to the international community, including USAID, to apply its knowledge and experience working with natural and agricultural ecosystems to an urban context. Many of the environmental problems generated by sub-Saharan cities and imposed on larger natural ecosystems will have to be resolved within the cities themselves. Some specific areas in which this expertise can be used include: urban farming, wetlands management, ecological engineering related to solid waste and waste water treatment, regeneration of natural areas and environmentally-based land use planning.

Environmental Protection and Economic Growth

Environmental protection and economic development have often been viewed as separate, if not opposing, activities. Discovering how to combine these two imperatives, without endangering their respective importance and value to African cities lies at the heart of any new urbanization approach.

Green and Brown Environmental Agendas

Visible improvements in the "brown" agenda will increase African environmental awareness and support for the "green" agenda as well. There can be no success in conserving natural habitats if

human habitats are left unattended to crumble and die through poverty, joblessness and unhealthy living conditions.

Private and Public Sector Financing of Infrastructure

As African cities continue their rapid growth, the inability of local governments to finance the most basic infrastructure necessary for economic development will become an extremely critical constraint. The ways in which private capital is deployed will ultimately have far greater impact than public sector funds on the environmental future of sub-Saharan countries. A productive partnership is required between the public and private sector that includes formal, informal, non-profit, private associations and individual households acting as businesses.

Western and Locally Based Planning

The application of new urban planning approaches to this region can make a major contribution to the creation of sustainable urban development and land use patterns that are environmentally compatible, economically efficient and socially equitable.

Mechanical and Ecological Engineering Solutions

A frank assessment of the environmental conditions and financial capabilities of African cities leads to the conclusion that lower-cost, information-based and locally created ecological engineering solutions can have more immediate and long term beneficial effects than expensive, mechanical systems that are simply imported from abroad.

Key Areas of Concern and Opportunity

Six major areas of concern and opportunity have been considered in this study: local government and community level environmental action; urban-rural linkages; low-income neighborhoods and housing; energy use, climate and health; information and networking as tools in urban management; and mitigation of "brown" pollution through land use planning.

Local Government and Community Level Environmental Action

Active participation by both local governments and communities are essential in attempting to establish viable systems of local governance that allow for meaningful community involvement in the organization and delivery of environmental services.

Urban Rural Linkages

The concept of sustainable development has evolved within the framework of three broad perspectives: ecological, economic and social sustainability. These three perspectives can also be used to categorize the major linkages that exist between rural and urban areas.

Cities are man-made ecosystems that consume natural resources (inputs) and create wastes (outputs). The systems used to regulate this ecological process are critical to the sustainability of both urban and rural environments. Given that people are an essential part of the natural ecosystem and that ecosystems change regardless of human activity, it is important to ensure that

human activities relate to natural and man-made ecosystems in the least destructive way, and within the inherent limitations of these systems.

Cities serve as transition points between rural, regional and national economic activity. They provide markets for rural products and the necessary infrastructure to incorporate these products into the cash economy. They also provide the necessary processing and distribution centers essential for both exports and domestically consumed products.

Cities provide the prism through which world culture, information, education and democracy come to rural areas. They play an important role in shaping local patterns of consumption, establishing attitudes about the desired quality of life and generating respect for the environment.

Low-Income Neighborhoods and Housing

African cities and towns are growing much faster than land can be prepared and serviced to accommodate this growth. Housing is the single most expensive purchase by the majority of households and one of their most valuable assets.

Energy Use, Climate and Health

Today's African cities have relatively small energy demands and make contribute only a small amount to global climate change. Most health problems are due to poor the poor quality of water and not the air. The rapidly growing sizes and numbers of African cities are likely to lead to much greater cumulative impacts on the region's energy use and climatic conditions over the next several decades.

Information and Networking as Tools in Urban Management

The sustainable development of cities requires a sound and intimate knowledge of the natural and human ecosystems on which they are based. Fortunately, obtaining and sharing the basic information necessary to develop this knowledge is becoming easier through a greater number of studies and the use of electronic media.

Mitigation of Brown Pollution through Land Use Planning

At least four areas come to mind through which environmentally sound land use planning can make a positive contribution to the development of sustainable cities. These include the incorporation of mixed land uses; encouragement of urban farming; regeneration of vacant land and green infrastructure; and promotion of industrial use of waste.

Elements of an Urban Environmental Strategy and Low-Cost Options for Implementation

Suggested Areas of Focus

Suggested areas of focus for a future-oriented approach include opportunities that relate to:

- urban environmental actions undertaken through local governance and community participation;

- urban-rural linkages;
- urban farming and agricultural marketing;
- natural resource use and conservation in urban areas;
- environmental awareness and education;
- electronic exchange of data and experience on urbanization and the urban environment.

Low-Cost Options for Intervention

The suggested overall approach will involve: fine tuning existing programs and activities to include small, urban components; coordinating with other donors working on the urban environment to increase the impact of ongoing efforts by all parties; and developing a limited number of small-scale pilot interventions that can provide much needed technical assistance and training related to urban environmental issues. Basic activities to be carried out include:

- **technical assistance** that focuses on the promotion of resource accounting and the development of systems of ecological accounts that can be applied at the national, rural and city levels, as well as analysis of the linkages and synergies between urbanization, environmental management, population/health, economic growth and democracy/governance issues, particularly with respect to the opportunities for empowering community-based organizations and local government to improve the management of land and other natural resources ;
- **training** that focuses on planners, environmental professionals and PVOs and NGOs involved in the areas of urban infrastructure development, environmental assessment, and development planning which takes account of urban-rural dynamics;
- **institutional strengthening** that includes NGOs, CBOs neighborhoods and communities through the exchange of knowledge, international meetings, training courses and twinning arrangements with developed cities and regional environmental institutions such as NESDA;
- **networking** through AfricaLink and other initiatives such as MELISSA; and
- **improved donor coordination**, with special attention given to urban issues and better integration of urbanization issues into sustainable development planning, through collaboration with the Multi-Donor Secretariat for National Environmental Action Plans (NEAPs) and African planning institutions.

Chapter 1

Introduction

1.1 Africa's Urban Transition

Sub-Saharan Africa is currently in the middle of the most important demographic and economic transition in its history. This fundamental transition affects all countries in the region. It is a process that is characterized by high population growth, widespread urbanization and very rapid growth of the region's largest cities. The magnitude and importance of this transition has prompted the Office of Sustainable Development in the Africa Bureau to increase its interest in urban areas and to focus its attention on improving the critical linkages that exist between these cities and their rural hinterlands.

Although there is no shortage of ideas or images about the character of "urban" or "rural" areas, there are no unique or simple definitions of what these classifications actually mean. Statistical, administrative, physical, functional and boundary definitions rarely coincide for urbanized areas and each country often has its own idea about what is meant by "urban." In Botswana for example, many traditional villages, that frequently have populations up to 50,000 people, perform functions that are agriculture-based and almost exclusively rural in nature.¹ Formal distinctions between "urban" and "rural" may be even less apparent to the Africans themselves. The maintenance of strong urban-rural ties is characteristic throughout much of sub-Saharan Africa and many poor households depend on economic footholds in both urban and rural areas in order to survive. It may be far more useful, therefore, to conceive of a "rural-urban continuum" that incorporates the wide diversity and sizes of urban areas as well as the perceptions and lifestyles of their inhabitants. The recent USAID report on "Making Cities Work" asserts that the "essence of urban is not size, but the inevitable existence of processes and interactions that demand collective action and planning." This collective action and planning is a necessary ingredient for the success of many of USAID's current Strategic Objectives (SOs) in Africa.

1.1.1 Forces Behind this Transition

The urban transition now taking place in sub-Saharan Africa is a major societal change and virtually irreversible historical event. It is an ongoing process that is only partially complete. Some of the major forces that have driven and will continue to drive this transition include the:

Ongoing agrarian crisis

The current agrarian crisis is characterized by high population growth, low productivity, low incomes, negative terms of trade and the absence of basic infrastructure and services. It has precipitated a widespread movement by the rural population into major cities that are perceived to have the best opportunities for individual and household survival. Given the continuing high

¹ Wekwete, K.H., "Africa," in *Sustainable Cities: Urbanization and the Environment in International Perspective*, Richard Stren et al., eds., Boulder, CO: Westview.

population growth and the further deterioration of natural and agricultural conditions in rural areas, it is very unlikely that this crisis will end relatively soon;

Mass migration towards large and primate cities

Rapid rural population growth and an unbalanced hierarchy of cities have led a large number of rural-to-urban migrants to move directly to the predominant or primate city within each country.² The explosive growth of these large cities has been accompanied by a plethora of seemingly unmanageable and highly visible problems that have included: soaring urban poverty; insufficient shelter; inadequate sanitation; inadequate or contaminated water supplies; serious air pollution and other forms of environmental degradation; congested streets; overloaded public transport systems and recurring deficits in municipal budgets. Despite the obvious magnitude of the urban problems that literally surround them, most migrants believe they are better off living in these cities than in the rural areas from where they came;

Widening gap between population and economic growth

The urban crisis throughout the region has been characterized by decreasing rates of formal employment, deteriorating infrastructure and basic services, and declining quality of both the built and natural environments within urban areas. Economic development has clearly been unable to keep pace with demographic growth. As a result, both cities and their residents have been getting relatively poorer. The general deterioration of the situation and lack of visible progress or improvement have hampered the ability of African cities to attract either the local or foreign investment necessary to create new employment, maintain essential infrastructure and services and assume their essential roles as "engines of economic growth";

Absence of true newly industrializing countries with dynamic cities

Few if any of the countries and cities in sub-Saharan Africa can effectively compete in today's global market. The fact that no African city is among those core cities involved in controlling the international circuits of capital, commodities and skilled labor is clearly linked to the peripheral nature of Africa's global economic situation. Falling per capita incomes, along with declining nutrition and educational levels in many areas of sub-Saharan Africa have rendered it one of the poorest regions in the World, one that is increasingly indebted and desperately reliant on diminishing amounts of aid;

Growing marginalization of Africa in a globalizing world

The lack of foreign investments, a negligible involvement in international trade, and a steep decline in export revenue, coupled with limited domestic savings and investments, imply that the region is not yet ready to share in the mostly urban-based technological advances being achieved throughout the world. Despite substantial improvements in communication and transportation, Africa, in relative terms, has become even more peripheral to global development than it was in

² Although there is no formal definition of a primate city in Africa, a very rough definition of such a city is one that is four times larger than the next largest city within a given country. See paper presented by Al van Huyck to the 9th African Conference on Housing and Urban Development (Dakar, Senegal, 1984) entitled "The Primate City: Friend or Foe to National Development."

the past; however, a new sense of commitment now exists to connect Africa to the global economy, and Africa may shortly be poised to rise to the occasion. In any event, recent evidence indicates that foreign investment may be rising on the continent and in the foreseeable future, the economic picture may change for the positive.

Inability of surplus population to emigrate to less populated countries

During the 19th century Industrial Revolution in Europe, a large part of the "surplus" population was able to emigrate to less populated countries in the Americas and Australia. This demographic "safety valve" reduced the social, political and economic tensions that would have arisen had such an opportunity not been available. Both the lives of those who left and those who stayed behind were subsequently improved. Such a safety valve no longer exists for the current African transition, a situation that makes this period of change all the more difficult.

Relentless population growth; deteriorating physical, economic, and social conditions in both urban and rural areas; and, at least until now, the general lack of responsive government leadership throughout the region have increased the urgency to address the economic and environmental problems that plague African cities and to reduce the poverty of their inhabitants.

Positive economic developments and advantages of urban centers

The basic economic situation, however, is not without hope. There is some good news, as reported by L. Duke (Washington Post, 8/15/97, see excerpt in Annex H); he noted that U.S. Trade and Development Agency data and information from the recent African-American conference in Harare, Zimbabwe indicate that, despite continued economic and political trouble on the continent as well as structural economic problems that have yet to be solved, sub-Saharan Africa is posting new highs in economic growth rates, more economic reform and more democracy -- all of which have caused investors to consider this once marginalized continent a market worthy of their attention and money.

Cities of all sizes, from overwhelming, primate cities to smaller market towns, owe their existence to the fact that they provide advantageous locations for a wide range of economic activities. Macro-level benefits from urbanization include "economies of scale," "localization economies," and "agglomeration economies" for industries, communications, and modern infrastructure (including water and electricity supply) and for social services (including health care and education) that can significantly improve the lives of millions of urban inhabitants. Recent evidence suggests that important economies of scale can be achieved in providing urban and social services for urban areas that have populations up to 150,000 people.

The current transition has generated a number of positive aspects that can be nurtured to help African cities achieve sustainable development. Among them, African urban economies have shown a remarkable flexibility in terms of production, which makes them very responsive to demand and able to fill a wide range of market niches. They have also shown a great deal of resiliency, which has ensured their survival even in times of adverse economic or political conditions. A large part of these positive attributes has been due to the magnitude and vibrancy of the informal sector which has been responsible for a large share of production in many sectors

of the economy. It has been estimated that 75 percent of the basic needs of the population in the majority of African cities have been provided by the informal sector.³ Advantages of the informal sector include: ease of entry, reduced bureaucratic paperwork, little or no need for formal training of employees and only limited need for start-up capital. Many goods supplied by informal producers would not otherwise be accessible to the large numbers of low and moderate income households, either because of the lack of interest by formal companies in catering to these households or because of the higher prices of their products. One of the major urbanization challenges facing most African countries involves dealing with this “informality” as an economic process, while at the same time promoting authentic, self-centered national development that makes use of African cities as a vital and critical factor in economic recovery.

1.1.2 Need for a More Integrated Approach

Sustainable development in sub-Saharan Africa cannot be achieved until the urgent problems of poverty and inequality within its cities have been addressed. These problems cannot be treated on a piecemeal basis. Sustainable development requires a comprehensive perspective that integrates environmental, social and economic goals. Understanding the linkages between these goals and the manner in which they relate to both urban and rural areas is critical.

Although results can be more easily monitored and quantified when natural elements are examined individually, success in achieving sustainable development cannot be reached by treating problems on a one-by-one basis. Past environmental movements in developed countries, for example, focused largely on preventing pollution through technology and law. The adopted approach looked disapprovingly at urban activities and economic growth because of their perceived harmful effects in terms of pollution and the destruction of biodiversity. The environmentalist approach at that time was confrontational in style, polarizing in practice and piecemeal in its application. By compartmentalizing problems according to environmental media (e.g., air, water, waste etc.) the approach was able to identify major areas of crisis but unable to address the important synergies that exist within and between both natural and human environments.

Today’s environmental problems are more subtle and difficult to address. They include both a “green agenda,” which is focused on global environmental concerns such as global warming, ozone-layer depletion, biodiversity, deforestation and exhaustion of nonrenewable resources, and a “brown agenda” which is focused on local environmental concerns such as congestion, problems of water and air pollution, lack of basic services, inadequate green areas, declining infrastructure and poor housing conditions. Part of the challenge in attempting to address current environmental problems lies in determining the emphasis to be placed on each of these agendas in light of the limited resources to deal with them. Areas where green and brown agenda issues overlap are the obvious places to start.

³ Cohen, M. et al., 1996, *Preparing for the Urban Future — Global Pressures and Local Forces*, Washington, DC: Woodrow Wilson Center Press.

Newly emerging urban Africa and its linkages with its rural hinterland and natural environment present a tremendous opportunity to develop new, ecologically sound societies. There are still large areas where communities earn their livelihoods in ways that are consistent with the preservation of their culture and of their natural environment. Such communities have nearly disappeared in the developed world. Africans need to recognize and rediscover the technological and cultural wisdom of their indigenous systems of agriculture, industry, shelter, water, sanitation and medicine. Principles of ecologically sustainable development should be adopted that include: minimizing the use of non-renewable resources, developing alternative renewable resources, and creating technologies, practices and products that are durable, safe and responsive to genuine needs.

Within this framework, there is also a need to look at environmental policies that are cooperative rather than confrontational, comprehensive rather than fragmented and sufficiently flexible to be tailored to fit the varying circumstances that exist throughout sub-Saharan Africa. A systems approach to environmental policy is required that is built on rigorous analysis, an interdisciplinary focus and an appreciation of the importance of the local context. Emphasis should be placed on increasing long-term environmental value and not simply on engineering immediate environmental fixes.

1.2 Point of Departure and Orientation for the Study

The original Scope of Work for this study called for the review of two important documents related to the development of sustainable cities. It was anticipated that these two documents would help set the point of departure and overall orientation for the study. The two starting documents were: the African Case Studies from the Environmental Problems Workshop held by the World Bank in Senegal in 1995; and the recently prepared paper, "Making Cities Work." A brief summary of the two documents is presented as follows:

1.2.1 Case Studies from the World Bank Africa Environmental Problems Workshop

There is growing awareness that sustainable development can only be achieved by striking a mutually beneficial balance between the environment and economic growth. In most cases, limited management capacity and not the lack of technology or capital has been the major constraint to the achievement of this balance. To improve management capacity requires new, more participatory approaches related to policy formulation and governance. Greater emphasis needs to be placed on leveraging a variety of resources that can come from partnerships, broad-based community participation and shared collective knowledge and know-how.

The Environmental Planning and Management (EPM) process has been developed jointly by UNCHS and UNEP. The basic concepts and approaches for this process have been evolving and maturing over the last several years, largely through the participation of cities in the Sustainable Cities Program.

A major outcome of this effort to date has been the EPM Sourcebook. The sourcebook examines a wide range of common environmental problems, concerns and approaches that affect cities around the world. It includes a number of case study examples of the EPM approach, 13 of which relate to sub-Saharan cities. Brief summaries of the basic characteristics, key issues and problems, EPM activities, results and lessons learned from these case studies are shown in Table 1.1.

The 13 sub-Saharan case studies all involve first time applications of the EPM approach that basically include four major steps: issue identification; strategy and action plan development; implementation; and institutionalization. Virtually all of the case studies have focused on incorporating the EPM process in decision making and on actively engaging local community and stakeholder participation in the process. None of the case studies has advanced to the point of being fully institutionalized. Some of the major lessons learned from these activities have been that:

- community and stakeholder participation are essential through all four phases of EPM application;
- local language must be used in the workshops and public documentation in order to obtain full citizen understanding and participation;
- communication and coordination between private groups and local authorities are critical to the sustainability of the process; and
- donor or external assistance may be needed at the start but should be phased out as quickly as possible.

Two case studies of particular interest to this initiative are the “Kenya Small Towns” case study and the “Durban” case study, both of which focused on determining community perspectives about priority issues and on developing a basic set of policy and procedural tools that could be applied on a regular basis. Both of these case studies have succeeded in integrating community participation into the planning process in a sustainable and replicable manner. More detailed summaries of these case studies can be found in Annex E Parts 1 and 2.

1.2.2 Making Cities Work

The USAID report on “Making Cities Work” is a well presented argument in favor of continued US Government involvement in developing country cities throughout the world. Most of these cities, and particularly those in sub-Saharan Africa, are undergoing very rapid urbanization with both positive and negative effects. On the positive side, increased urbanization is closely associated with growing and more developed economies that generate greater economic strength and higher per capita incomes. In many cases, urban areas play a major role in the creation of dynamic and competitive economies by contributing up to two-thirds of a nation’s GDP. Urbanization also results in more educational opportunities, improvements in the status of women, greater success in family planning and a decline in birth rates. On the negative side, the sheer speed, and/or poor management, of urbanization in the majority of African cities, for example, has damaged the environment, harmed human health, hindered the full realization of economic growth and contributed to political instability. Both the positive and negative aspects

TABLE 1.1 SUMMARY OF EPM CASE STUDY EXAMPLES FROM SUB-SAHARAN AFRICA

City/Basic Characteristics	Key Issues/Problems	EPM Activity	Outputs/Results	Lessons Learned
Abidjan 2.5 million people 4% annual growth area of 577 km ² 80% of industry; 27% of GDP	<ul style="list-style-type: none"> • lack of affordable housing • improper waste management • degradation of natural resources 	<ul style="list-style-type: none"> • stakeholder identification • stakeholder consultation • working groups 	<ul style="list-style-type: none"> • environmental profile • multi-point strategy • actor-specific action plans 	<ul style="list-style-type: none"> • government intervention alone cannot stop degradation • problems more complex with more actors than anticipated • pursue only appropriate and affordable solutions • need better enforcement/education to ensure behavior
Accra 1.8 million people 2.3% annual growth 10% of total employment 15-20% of GDP	<ul style="list-style-type: none"> • poor housing and infrastructure • poor solid waste management • inadequate sanitation • decay of natural areas • poor drainage with flooding 	<ul style="list-style-type: none"> • stakeholder consultation • formation of working groups 	<ul style="list-style-type: none"> • discussion of two priority issues: sanitation and Kofe Lagoon 	<ul style="list-style-type: none"> • use of local language helped discussions • problems of Kofe Lagoon cannot be treated in isolation • physical indicators of degradation for problem identification • issues underlying degradation more managerial than technical or financial
Bamako 1 million+ people 5-7% annual growth 45% in illegal settlements	<ul style="list-style-type: none"> • inadequate sanitation • surface water pollution • loss of open and green space • lack of financial resources 	<ul style="list-style-type: none"> • seek partnerships with civil society • round-table meeting • follow-up workshop 	<ul style="list-style-type: none"> • agreement on objectives • implementation targets • verification of results • explanation of assumptions 	<ul style="list-style-type: none"> • need for stakeholder participation • need for logical and systematic planning framework • outputs from the approach have limited life span • focus on legislation created awareness of rules • capacity of NGOs and public information enhanced
Cape Metropolitan Area 3.1 million people on 50 Km long peninsula	<ul style="list-style-type: none"> • environmental hazards • environmental health risks • stress on special ecosystems 	<ul style="list-style-type: none"> • move from issues to policies • conference • workshops 	<ul style="list-style-type: none"> • Spatial Development Frame • strategic management plans • institutionalization of process 	<ul style="list-style-type: none"> • power of comparative analysis • stakeholder participation after macro political framework • stability of process built on broad-based participation
Cotonou 550,000 people 4% annual growth area of 70 km ² 1/2 of labor force unemployed	<ul style="list-style-type: none"> • rapid growth and poor land use • degradation of water resources • environmental risks 	<ul style="list-style-type: none"> • clarify issues and actors • pilot project definition • public awareness campaign 	<ul style="list-style-type: none"> • door to door waste pickup • implementation of partial cost recovery 	<ul style="list-style-type: none"> • community capacity needed for financial management • key role of public information and awareness campaign • need to involve affected population in all phases • need for initial support organization or donor
Dakar 1.8 million people 22% of country's population 80% of country's industries	<ul style="list-style-type: none"> • environmental health • water pollution • natural risks • industrial risks 	<ul style="list-style-type: none"> • issue and actor identification • start-up workshop • rapid urban assessments • consultative workshop 	<ul style="list-style-type: none"> • environmental profiles on two priority themes • action plans 	<ul style="list-style-type: none"> • language related problems should be avoided • NGO participation is critical, their biases are not • care not to be too dependent on external assistance • involve related activities to improve coordination
Dar es Salam 3 million people 5% annual growth area of 1350 km ²	<ul style="list-style-type: none"> • environmental hazards in low income neighborhoods • improper waste disposal • natural hazards 	<ul style="list-style-type: none"> • environmental profile • city-wide consultation • issue specific consultations • action plan preparation 	<ul style="list-style-type: none"> • consensus on priority issues • Urban Environmental Strategy • Six Action Plans • proposals for capital investment 	<ul style="list-style-type: none"> • required more backstopping and management inputs • need for inter-institutional coordination mechanisms • need continuous mobilization of stakeholders • avoid excessive reliance on donor support
Durban 2.4 million people 2.3% annual growth area of 1365 km ² 9% of GDP 55% provincial economic output	<ul style="list-style-type: none"> • unequal access to environmental services • degradation of ecosystems • natural risks -landslides/floods • industrial risks - chemical • inefficient transportation 	<ul style="list-style-type: none"> • prioritize development issues • Advisory Committee • expert panels • capacity building workshops • focus groups and leadership interviews 	<ul style="list-style-type: none"> • Environment Study • Directory of Good Practices • Agenda 21 • Inter Service Unit Network 	<ul style="list-style-type: none"> • importance of multi-disciplinary core Working Team • need lateral connections within city's governing structure • low level of formalization will reduce red tape • need support from research bodies and NGOs • need broader strategic planning framework • institutional change at local government for environment
Ibadan between 2 and 3 million people largest indigenous city covers radius of 12-15 km.	<ul style="list-style-type: none"> • inadequate infrastructure • insufficient waste management • flooding • poor environmental health 	<ul style="list-style-type: none"> • building public awareness • create institutional structure • CBO awareness programs • city consultation 	<ul style="list-style-type: none"> • signing of Sustainable Ibadan Program (SIP) 	<ul style="list-style-type: none"> • need to include broad range of stakeholders • implementation hampered by frequent government changes • need for basic logistical support
J. Johannesburg 4 million people among fastest growing cities area of 1100 km ² 60% of national economy	<ul style="list-style-type: none"> • poor water and air quality • improper solid waste disposal • poor residential hygiene • lack of open space and flooding 	<ul style="list-style-type: none"> • prioritization of issues • development of environmental management system • uniform legislation 	<ul style="list-style-type: none"> • Interim Strategic Framework • WHO Healthy Cities Program • Agenda 21 	<ul style="list-style-type: none"> • cross-sectoral co-ordination is necessary • need to link management opportunities with political change • need to link participatory planning with political change • need external support
J. Kenya Small Towns average size 5,000 to 80,000 people areas 5 km ² to 50 km ² market/information function	<ul style="list-style-type: none"> • natural resource degradation • environmental risks related to rapid growth • loss of amenities / quality of life 	<ul style="list-style-type: none"> • initial issues workshop • mapping of specific problems • preparation of "problem tree" • preparation of action plan 	<ul style="list-style-type: none"> • Green Towns Project • Training of Trainers Program • "model towns" • action plan activities 	<ul style="list-style-type: none"> • facilitators are needed to change institutional behavior • participatory approach can be slow • networking between organizations is vital • reliance on local resources and voluntarism has limits
Nairobi 2.5 million people area of 685 km ² political and administrative capital	<ul style="list-style-type: none"> • vulnerability of low income areas • inadequate infrastructure • environmental health risks • exposure to natural risks • threats to natural heritage 	<ul style="list-style-type: none"> • city-wide forum and workshop • linkage to city future • focus on critical issues • NGO support to planning • formulation of action program 	<ul style="list-style-type: none"> • Emergency Action Program • City Environment and Sustainable Development Network • Policy Committee 	<ul style="list-style-type: none"> • need for capacity building for cross-sectoral approaches • critical information for planning and management is missing • little information on environmental constraints or potentials • use of local language is a critical factor
3. Ouagadougou 750,000 people area of 200 km ² informal sector dominates	<ul style="list-style-type: none"> • sustainability of water supply • pollution of water resources • land degradation 	<ul style="list-style-type: none"> • prioritization of issues • application of EPM 	<ul style="list-style-type: none"> • Second Urban Project 	<ul style="list-style-type: none"> • understanding of environmental issues poorly mobilized • competition between stakeholders limits consensus • lack of coordination and excessive centralization

of urbanization in developing countries have important impacts on the United States in terms of global environmental conditions, exposure to potential disease, American business opportunities and potential increase in strife and conflict throughout the world.

The document further points out that urbanization is a thread that runs through all of USAID's five major goals (promoting broad-based economic growth, advancing democracy, stabilizing population growth and protecting human health, encouraging sound environmental management, and providing humanitarian relief). It also relates very closely to USAID's focus on sustainable development, transition economies, crisis situations and global issues.

The document goes on to say that "the relationships between urban and rural areas and small settlements are key to the sustainable development process. Rather than thinking about development as either rural or urban, proper recognition needs to be given to the connected nature of the economic and social interactions that occur in most places between urban and rural dwellers." It is this basic assumption that has guided the development and outlook of this study.

1.3 Organization of the Report

The remainder of this report is divided into five chapters.

Chapter 2 provides a brief summary of the **basic characteristics, demographic growth, settlement patterns and environmental pressure points** for the overall sub-Saharan region and for its six ecological sub-regions.

Chapter 3 examines some of the **major environmental and economic issues** that will affect attempts to achieve the sustainable development of African cities.

Chapter 4 briefly describes current **international support for sustainable urban development** in sub-Saharan Africa. Programs and initiatives undertaken by USAID, the World Bank and the United Nations are identified.

Chapter 5 reviews six **areas of particular concern and opportunity**. These include the roles of local government and community in environmental action; rural-urban linkages; low-income neighborhoods and housing; energy use; climate and health; information and networking in urban management; and mitigating "brown" pollution.

Chapter 6 sets out a **preliminary strategy, guidelines and low-cost options** for USAID intervention in the promotion of sustainable cities in Africa.

Chapter 2

Overview of Urbanization in Sub-Saharan Africa and Its Ecological Sub-Regions

2.1 Sub-Saharan Region as a Whole

2.1.1 Overall Urbanization Trends

Demographic growth and urbanization are two of the driving forces behind the very fundamental changes that are now taking place in sub-Saharan Africa. While the total population of sub-Saharan Africa is now 2½ times greater than it was 30 years ago, its urban population has grown by a factor of 5 during the same period of time. Despite this dramatic increase in the urban population, sub-Saharan countries, on the average, continue to have less than 30 percent of their populations living in urban areas. The region remains largely under-urbanized in comparison to the rest of the world. (Table 2.1 presents total and urban population estimates for 1990 and 2010.)

Continued urbanization will mean both an increase in the size of existing urban areas and in the number of populated areas that are re-classified as cities (Figure 2.1). Between 1990 and 2020, large-size cities⁴ in sub-Saharan Africa will increase their populations by some 183 million people or roughly 6.5 times. The total population of these cities in 2020 will reach 216 million people, or roughly 1.4 times the total urban population in the region in 1990. At the same time, medium-size cities will increase their populations by another 123 million new inhabitants, an increase that is more than 80 percent of the total urban population for the region in 1990. Similarly, the population and number of small-size cities are expected to grow by 133 million people and more than 5,500 settlements. The increase in the number of small cities will occur mainly through the growth of existing villages and towns. The implications of these changes for the sustainability of both urban and rural areas will obviously be great.

2.1.2 Settlement Patterns and Typology

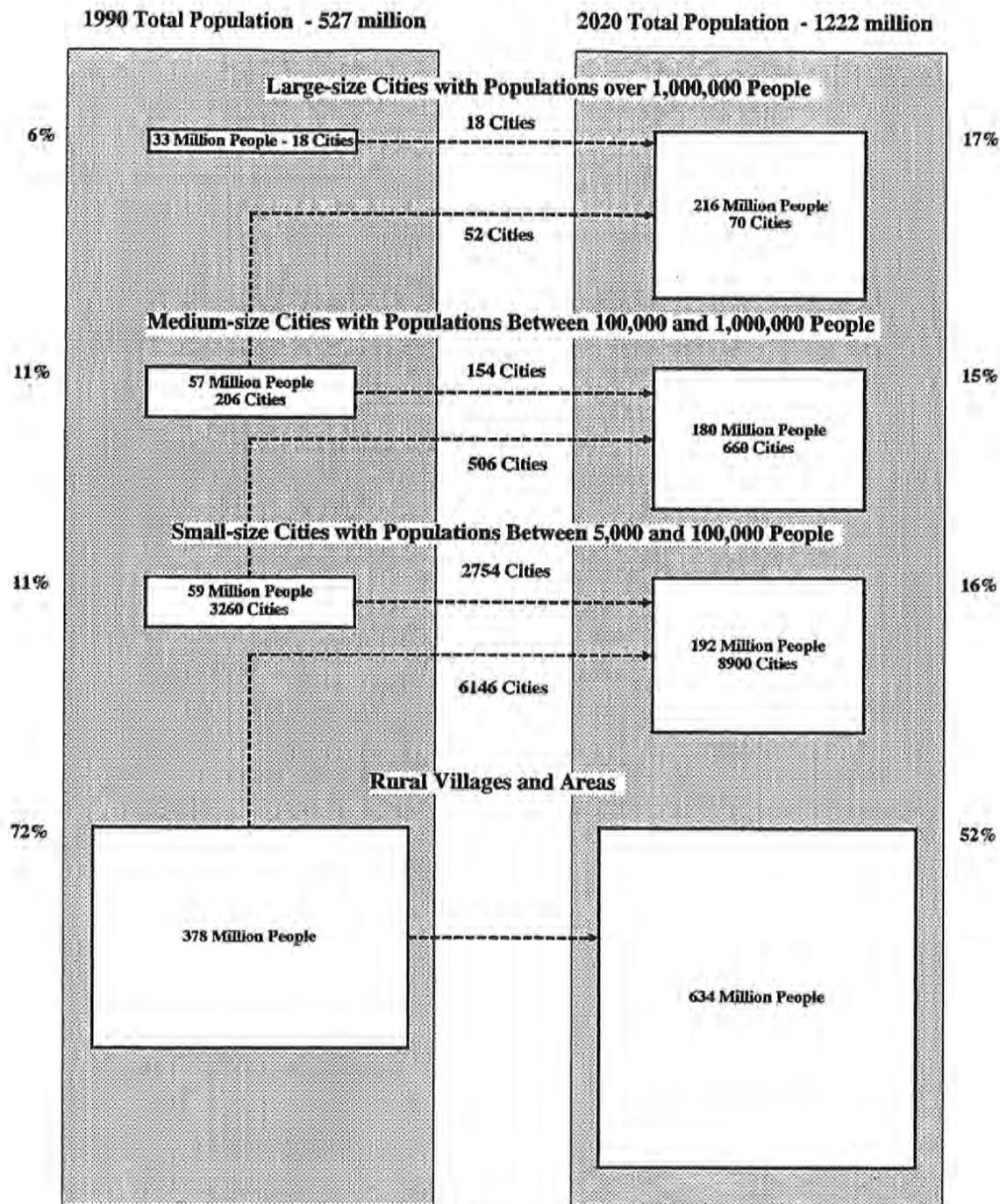
Sub-Saharan Africa's system of human settlements is composed of the national settlement systems of its individual countries. The most basic typology of cities includes: large cities (world, primate and large), medium-size cities (secondary cities and regionally oriented market towns) and small-size cities (market towns and rural agricultural centers). Settlement hierarchies and networks within each country are largely based on colonial development patterns that have been established over the past 50 years. As yet, there are no "world cities" or "major conurbations" in the region, although several may appear in the near future. An extremely important "megapolis," for example, is currently developing along 500 kilometers of coastline

⁴ Large-size cities = more than 1,000,000 population
Medium-size cities = 100,000 to 1,000,000 population
Small-size cities = 5,000 to 100,000 population

TABLE 2.1 UN POPULATION PROJECTIONS FOR SUB-SAHARAN AFRICA

	Nation Pop. in 1990 X 1000	Est. Nation Pop. in 2010 X 1000	Change in Nation Pop. X 1000	% Increase Nation Pop. 1990-2010	Urban Pop. in 1990 X 1000	Est. Urban Pop. in 2010 X 1000	Change in Urban Pop. X 1000	% Increase Urban Pop. 1990-2010	% Population Increase Urban	% Population Urban in 2010
Sudano-Sahelian										
Burkina Faso	8993	15474	6481	72.07	1365	5178	3813	279.34	58.83	33.46
Cape Verde	363	600	237	65.29	104	261	157	150.96	66.24	43.50
Chad	5553	9319	3766	67.82	1754	4628	2874	163.85	76.31	49.66
Djibouti	440	787	347	78.86	355	682	327	92.11	94.24	86.68
Mali	9214	16736	7522	81.64	2193	6374	4181	190.65	55.58	38.09
Mauritania	2024	3491	1467	72.48	947	2281	1334	140.87	90.93	65.34
Niger	7731	14328	6595	85.31	1508	4932	3428	227.49	51.95	34.43
Senegal	7327	12352	5025	68.58	2919	6989	3470	118.88	69.05	51.72
Somalia	8677	15915	7238	83.42	2101	5397	3296	156.88	45.54	33.91
Sudan	25203	43045	17842	70.79	5683	14810	9127	160.60	51.15	34.41
Gambia	861	1392	531	61.67	195	511	316	162.05	59.51	36.71
Sub Region	76386	133437	57051	74.69	19122	51443	32321	169.03	56.65	38.55
Humid West Africa										
Benin	4622	8357	3735	80.81	1765	4434	2669	151.22	71.46	53.06
Côte d'Ivoire	11980	23657	11677	97.47	4843	12787	7944	164.03	68.03	54.05
Ghana	15020	26594	11574	77.06	5107	12389	7282	142.59	62.92	46.59
Guinea	5755	10301	4546	78.99	1484	4289	2805	189.02	61.70	41.64
Guinea Bis.	964	1473	509	52.80	191	481	290	151.83	50.97	32.65
Liberia	2575	4829	2254	87.53	1169	3057	1888	161.51	83.76	63.31
Nigeria	108542	197370	88828	81.84	38163	100836	62673	164.22	70.56	51.09
Sierra Leone	4151	6944	2793	67.28	1335	3343	2008	150.41	71.89	48.14
Togo	3531	6427	2896	82.02	1005	2609	1604	159.60	55.39	40.59
Sub-Region	157140	285952	128812	81.97	55062	144225	89163	161.93	69.22	50.44
Congo Basin										
Cameroon	11524	20225	8701	75.50	4643	11600	6957	149.84	79.96	57.35
C. A. R.	3008	4882	1874	62.30	1404	3001	1597	113.75	85.22	61.47
Congo	2229	3884	1655	74.25	903	2097	1194	132.23	72.15	53.99
D.R. Congo	37391	68588	31197	83.43	10494	26023	15529	147.98	49.78	37.94
E. Guinea	352	574	222	63.07	101	231	130	128.71	58.56	40.24
Sao Tome	119	174	55	46.22	50	101	51	102.00	92.73	58.05
Sub-Region	54623	98327	43704	80.01	17595	43053	25458	144.69	58.25	43.79
East Africa										
Burundi	5492	9323	3831	69.76	293	912	619	211.26	16.16	9.78
Eritrea			0	0.00			0	0.00	0.00	0.00
Ethiopia	49831	89038	39207	78.68	6110	17354	11244	184.03	28.68	19.49
Kenya	23585	44387	20802	88.20	5559	17619	12060	216.95	57.98	39.69
Rwanda	7027	13306	6279	89.36	393	1181	788	200.51	12.55	8.88
Tanzania	25993	48371	22378	86.09	5407	17564	12157	224.84	54.33	36.31
Uganda	17560	30690	13130	74.77	1960	5761	3801	193.93	28.95	18.77
Sub-Region	129488	235115	105627	81.57	19722	60391	40669	206.21	38.50	25.69
Southern Africa										
Angola	9194	17660	8466	92.08	2602	7801	5199	199.81	61.41	44.17
Botswana	1238	2136	898	72.54	309	1002	693	224.27	77.17	46.91
Lesotho	1747	2821	1074	61.48	339	996	657	193.81	61.17	35.31
Malawi	9583	16455	6872	71.71	1132	3450	2318	204.77	33.73	20.97
Mozambique	14200	25406	11206	78.92	3799	12818	9019	237.40	80.48	50.45
Namibia	1439	2610	1171	81.38	400	1100	700	175.00	59.78	42.15
South Africa	37959	58446	20487	53.97	18679	34775	16096	86.17	78.57	59.50
Swaziland	751	1270	519	69.11	198	576	378	190.91	72.83	45.35
Zambia	8138	13885	5747	70.62	3417	6896	3479	101.81	60.54	49.67
Zimbabwe	9947	16808	6861	68.98	2839	7387	4548	160.20	66.29	43.95
Sub-Region	94196	157497	63301	67.20	33714	76801	43087	127.80	68.07	48.76
Indian Ocean Islands										
Comoros	543	1079	536	98.71	141	451	310	219.86	57.84	41.80
Madagascar	12010	22431	10421	86.77	2860	8668	5808	203.08	55.73	38.64
Mauritius	1075	1284	209	19.44	436	600	164	37.61	78.47	46.73
Seychelles	71	81	10	14.08	42	60	18	42.86	180.00	74.07
Sub-Region	13699	24875	11176	81.58	3479	9779	6300	181.09	56.37	39.31
TOTAL SSA	525532	935203	409671	77.95	148694	385692	236998	159.39	57.85	41.24

FIGURE 2.1: EVOLUTION OF SMALL, MEDIUM AND LARGE SIZE CITIES BY ESTIMATED POPULATION GROWTH 1990 - 2020



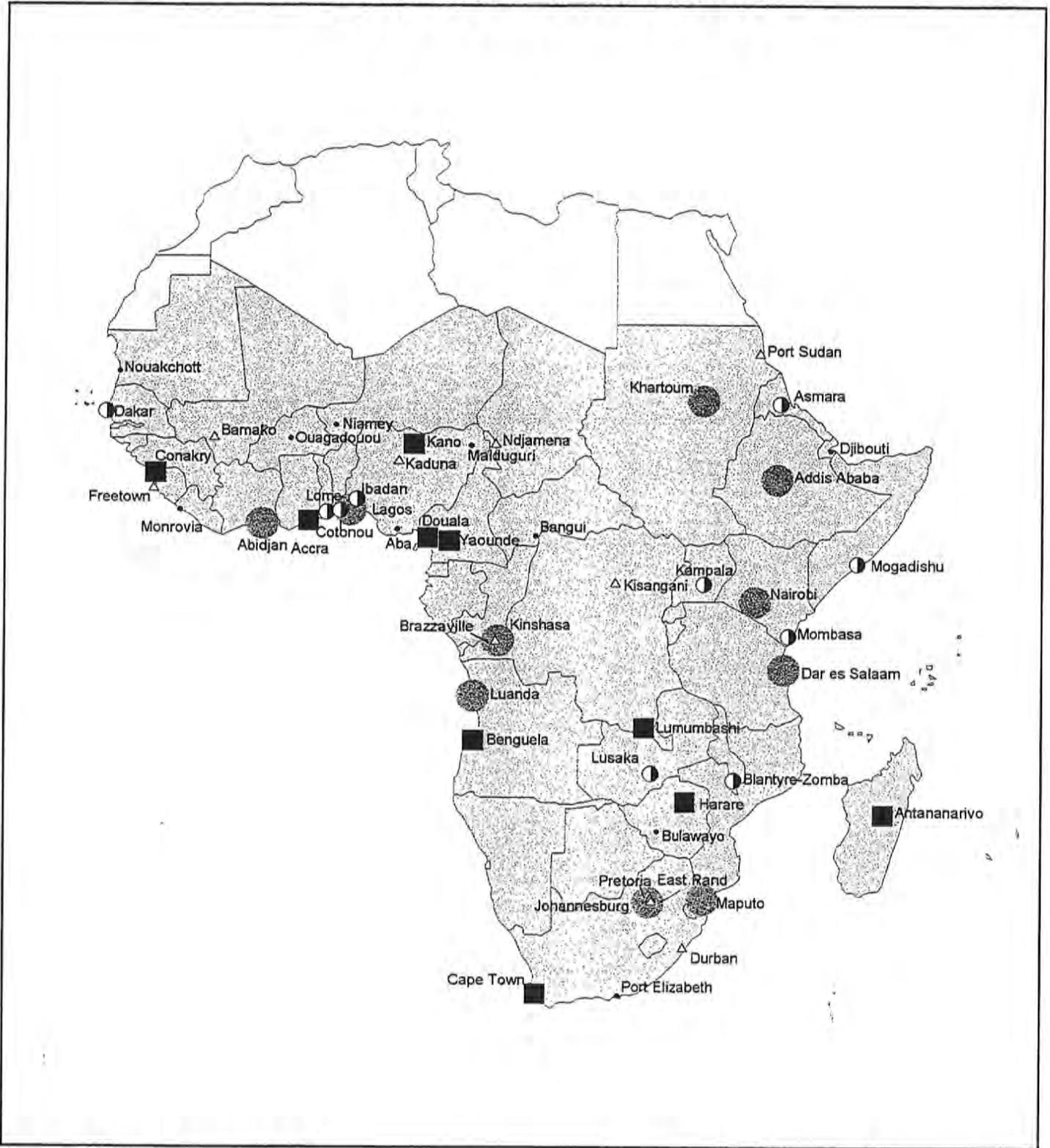
Box Sizes are Proportional to Population

Between 1990 and 2020:

- Total population will increase 2.3 times from 527 million to 1222 million
- Total population of large-size cities will increase 6.5 times from 33 to 216 million people
- 52 medium-size cities will become large-size cities with populations more than one million
- Total population of medium-size cities will increase 3.2 times from 57 to 180 million people
- 506 small size-cities will become medium-size with populations over one-hundred thousand
- Total population of small-size cities will increase 3.3 times from 59 to 192 million people
- 6146 rural settlements will become cities with populations more than 5000 people
- Remaining rural population will increase 1.7 times from 378 to 634 million people

SOURCE: "Urban Planning and Environment in sub-Saharan Africa", AFTES, World Bank, 1995

**Figure 2.2 - Projected Population Change, 1990 - 2010:
The 50 Biggest Cities in Sub-Saharan Africa**



Projected Change in Population, 1990 - 2010	
•	436,000 - 688,000
△	690,000 - 888,000
○	990,000 - 1,346,000
■	1,377,000 - 1,870,000
●	2,024,000 - 5,063,000

400 0 400 800 Miles



400 0 400 800 1200 Kilometers



Source: The World Bank, *Toward Environmentally Sustainable Development in Sub-Saharan Africa*; J.L. Venard, *Urban Planning and Environment in Sub-Saharan Africa*.

between Ibadan and Accra. This area is expected to include 5 major cities and a population of almost 50 million people by the year 2010.

Other potential conurbations whose population could exceed 10 million people by year 2025 include the:

- Johannesburg-Pretoria urban area;
- Niger delta and south of the Ibo country between Benin City, Port Harcourt, Calabar and Enugu, and
- copper belt between Lubumbashi and Ndola.

Several large cities are also expected to have metropolitan areas of more than 5 million people. These cities are: Kinshasa, Abidjan, Khartoum, Maputo, Addis Ababa, Luanda, Nairobi and Dar es Salaam.

Large-size cities

Large-size cities not only include those mentioned above but also cities that are either State capitals, ports for State capitals located in the hinterland, such as Douala, Mombasa or Port Sudan, or secondary cities serving as regional capitals in the more densely urbanized countries such as South Africa or Nigeria. As gateways to the outside world, these cities generally represent a "crossroads" between internal and external relations. They have the most diversified and developed structures and contain a disproportionate share of their respective countries' productive bases. The number of large cities with more than 1 million inhabitants is expected to grow from 18 in 1990 to 70 in 2020. The list of the 50 largest cities in sub-Saharan Africa in 2010 (shown in Table 2.2) provides a very good approximation of their future population, while Figure 2.2 indicates their location. While there is some criticism that the United Nations (UN) 1992 population projections on which the table is based are over estimated, it is more often the case that population projections turn out to be lower than reality.

The more dynamic large cities and/or metropolises will have to improve their infrastructure and increase their productivity even further if Africa is to participate at all in the benefits of globalization.

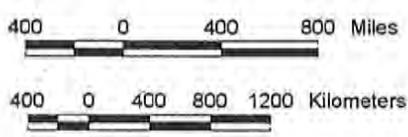
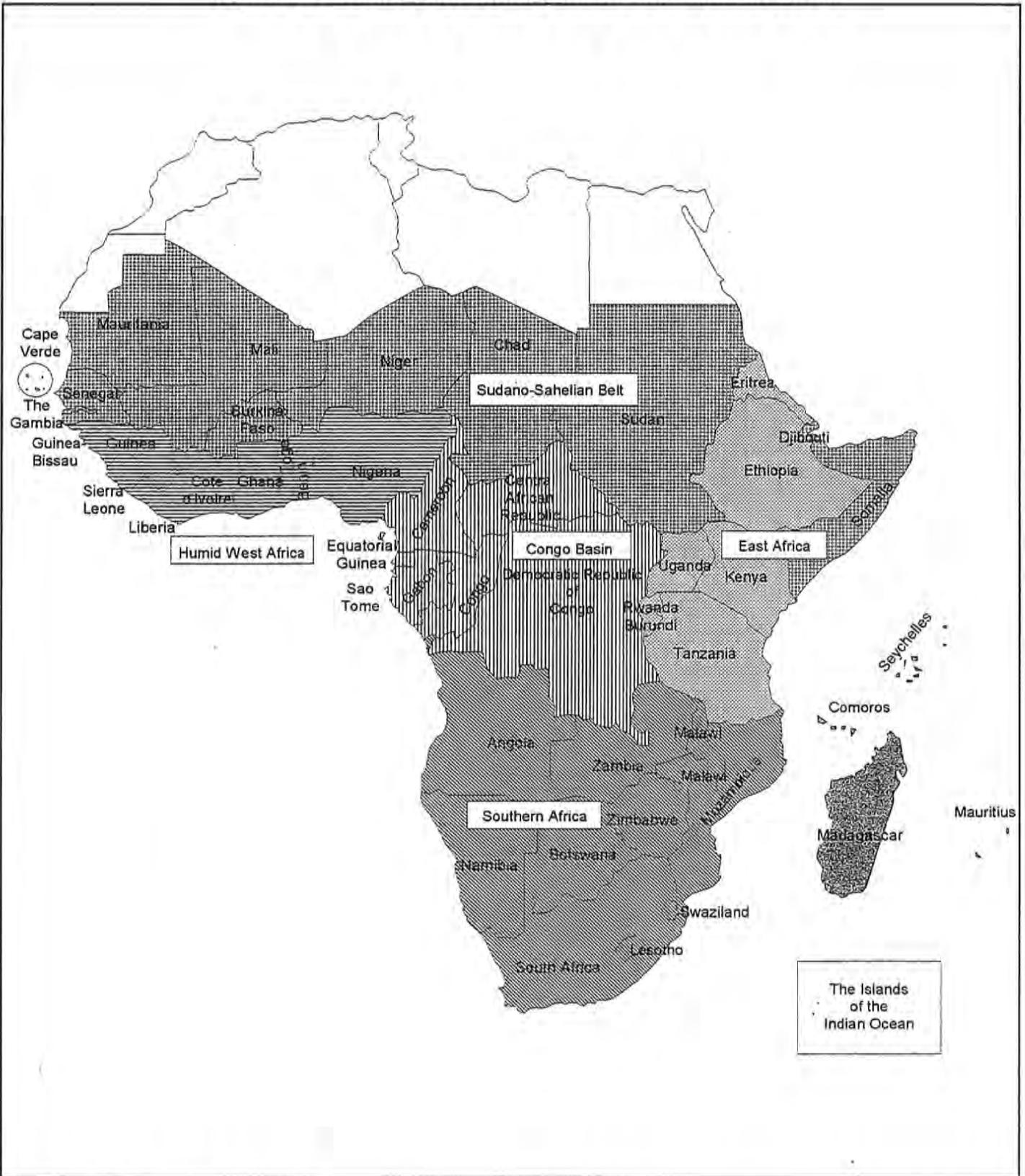
Medium-size cities

The number of medium-size cities in sub-Saharan Africa with populations between 100,000 and a million people is expected to grow from 206 in 1990 to 660 by the year 2020. The total number of cities with populations greater than 50,000 people is expected to rise to around 1,200. This network of medium-size cities will function as the principal connection points between the rural sector and large cities (regional growth centers, national level market towns). The success and growth of these cities is a key element in developing a more balanced hierarchy of cities and in reducing the flow of migrants to the large or primate cities.

Small-size cities

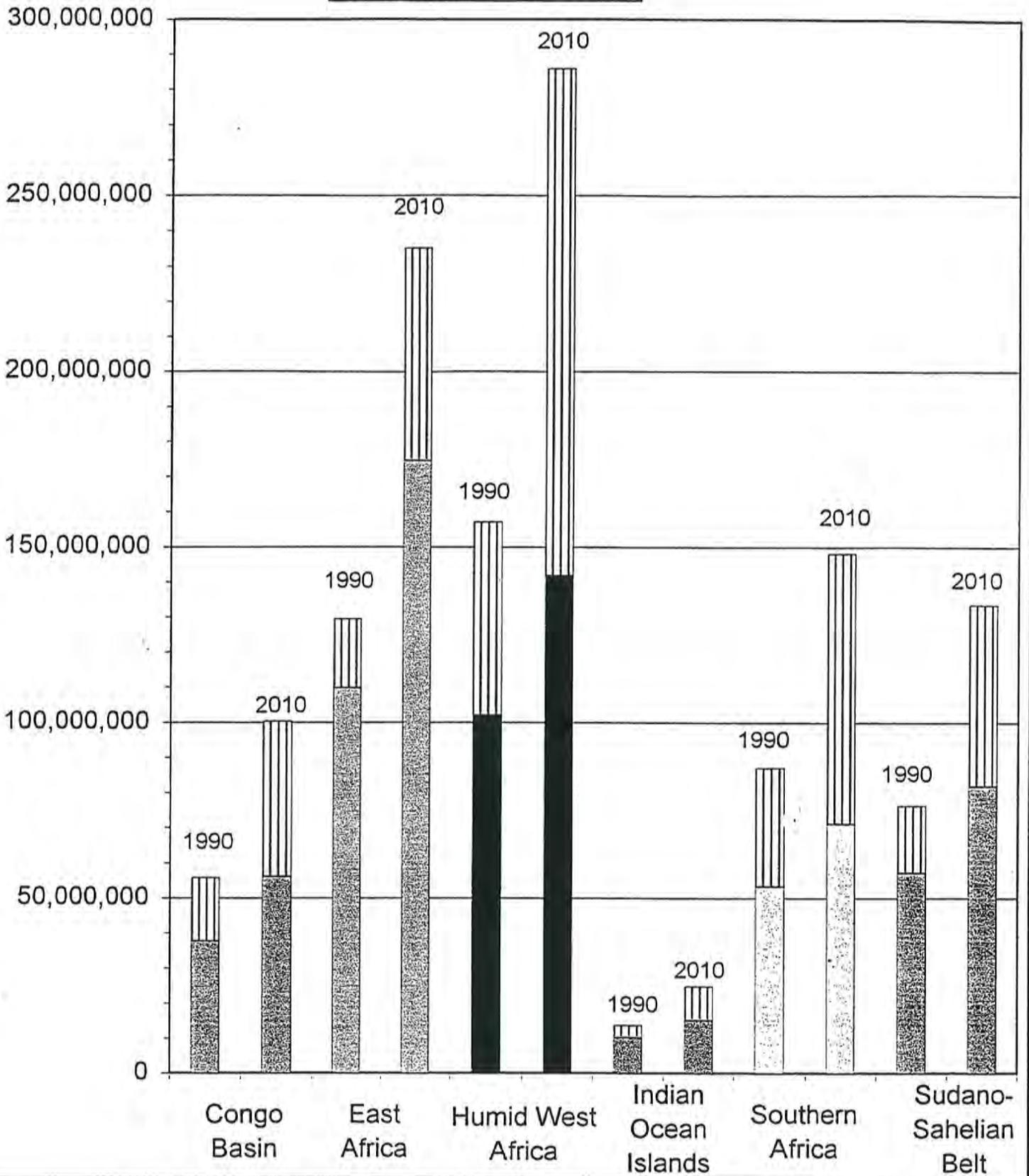
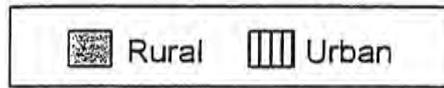
The expansion of dense, small-city networks of market towns and agricultural centers able to contribute to the organization and economic development of rural zones and to provide the

Figure 2.3 - Ecological Subregions of Sub-Saharan Africa



Source: The World Bank, Toward Environmentally Sustainable Development in Sub-Saharan Africa.

Fig. 2.4 Comparison of Rural and Urban Populations by Ecological Subregion, 1990 - 2010



necessary links to larger markets is an essential component of economic development and the urbanization process now taking place in sub-Saharan Africa. The number of these cities is expected to increase by 3,000 to 8,000 depending on the definitions that are applied. They provide a unique opportunity to develop modern, ecologically sound settlements of the future.

The densities of small-city networks are essentially linked to the population movements and economic development of their surrounding areas. Territorial strategies aimed at local development should systematically implement an “urban component” that is compatible and complementary to the management of natural resources, agricultural production and protection of the environment at the local level.

2.2 Sub-Saharan Sub-Regions

Sub-Saharan Africa can be subdivided into six main sub-regions based on ecological zones identified by the FAO. The six sub-regions are shown in Figure 2.3 and include the: Sudano-Sahelian Belt, Humid West Africa, Congo Basin, East Africa, southern Africa and the Islands of the Indian Ocean. The changes in rural and urban population for each of the sub-regions from 1990 to 2010 are shown in Figure 2.4.

2.2.1 Sudano-Sahelian Belt

The Sudano-Sahelian belt runs across the northern part of sub-Saharan Africa from the Atlantic Ocean on the west to the Red Sea and Indian Ocean on the east. The zone encompasses 11 countries: four with access to the Atlantic Ocean (Cape Verde, Gambia, Mauritania and Senegal) two with coastlines on the Indian Ocean (Somalia and Djibouti), one with access to the Red Sea (Sudan) and another four that are totally surrounded by land (Mali, Burkina Faso, Niger and Chad). These four landlocked countries are among the least urbanized and poorest in the world.

Basic characteristics

The Sudano-Sahelian ecological zone is the most fragile and least favorable for development in all of sub-Saharan Africa. It is burdened with poor soils, extremely variable rainfall, short cropping periods and high risk of drought. Overgrazing, cropland exhaustion and deforestation have resulted in wide-spread soil degradation and growing desertification throughout the area. Sudan in particular has been hard hit by these conditions.

Less than 20 percent of the total surface of the sub-region can be cultivated due to arid conditions. The ratio of cultivated land to population is very low throughout the area ranging from 0.1 to 0.56 hectares per person.⁵ Roughly half of the arable land is cultivated on an annual basis which makes it almost impossible to maintain soil fertility. About three times as much cultivable land would be needed to keep the area fertile under the low level technology that is currently in use. The decrease in woodland has been due not only to the non-sustainable harvesting of fuel wood, but also to the desperate clearing of forests to increase cropland, even though woodland soils are very poor in achieving any long-term, sustainable production of crops.

Environmental degradation, poor farming conditions and chronic insecurity of the food supply have been major contributors to wide-spread poverty throughout the sub-region and to increasing population migration to the southern coast of West Africa.

Demographic growth

Despite such unfavorable conditions, the number of people living within the Sudano-Sahelian sub-region continues to grow very rapidly. According to the United Nation's 1992 projections, this sub-region's population is expected to grow from roughly 77 million people in 1990 to 134 million in 2010. This 75 percent growth in overall population is expected to occur even with a decline in fertility and mortality and a continuing flow of migrants to the coastal countries of West and Central Africa. The urban population of the sub-region is expected to increase from 19 million people in 1990 to 51 million in 2010, an increase of 32 million people or 169 percent. During the same period, the rural population is expected to increase by almost 25 million people. In 2010, the percentage of the population living in urban areas is expected to be around 39 percent.

It is anticipated that close to 9 million people will be added to the urban population of Sudan with roughly 4 million each added to those of Burkina Faso and Mali. Many of the more densely populated areas destined to absorb these new residents have already surpassed their carrying capacity at the current levels of technology. This means that land degradation, fuel wood shortage and stress on water systems are likely to increase dramatically over the coming years.

Settlement patterns

This sub-region is characterized by many pre-colonial cities of indigenous or Islamic origin (e.g., Timbouctou, Katsina, Sokoto), colonial cities developed in response to the mercantile needs of European colonization (e.g., colonial Dakar) and a rapidly growing number of hybrid cities which have small colonial cores surrounded by much larger areas of predominantly informal

* The majority of data presented in this section of the report have been taken from:

- World Bank, 1996, *Toward Environmentally Sustainable Development in Sub-Saharan Africa — A World Bank Agenda*, Washington, DC: World Bank.
- Stren, Richard, et al., eds., *Sustainable Cities: Urbanization and the Environment in International Perspective*, Boulder CO: Westview.
- Simon, D., *Cities' Capital and Development: African Cities in the World Economy*, London: Belhaven Press.

development (e.g., Bamako). Most of these cities function as commercial and service centers with very little industry.

Population projections by the UN in 1992 indicated that this sub-region is expected to include nine of the 50 most populated cities in sub-Saharan Africa in 2010. These cities will range in size from 1 to 5 million inhabitants and include, in order of their ranking: Khartoum (6), Dakar (13), Mogadishu (27), Bamako (33), Ndjamena (40), Niamey (44), Ouagadougou (45), Nouakchott (46) and Djibouti (48). The nine cities combined are expected to accommodate roughly 9.5 million (29 percent) out of the 32 million new urban residents anticipated in 2010. The remainder of this urban population increase will settle in cities and towns that have less than 900,000 inhabitants. Many of these cities and market towns will be small in size and closely tied to their rural hinterlands.

Environmental pressure points

The immense demographic challenge facing this area makes virtually the entire region a major environmental pressure point. Environmental pressure is likely to be highest along river valleys and major wetlands where competition for arable land and water will be the most intense. Major areas of concern include the inner Niger Delta in Mali and Lake Chad, the Nile River Basin in Sudan and the Senegal River valley. These pressure point areas include the major cities of Khartoum, Bamako, Ndjamena, Niamey, Gao, Timbouctou, St. Louis and Kaedi.

The Senegal River not only serves as a border between Senegal and Mauritania, its floodplains support over 1 million people. Migration and competition for land in this valley, as a result of drought and government sponsored settlement following the construction of two major dams, have already produced a major political crisis between the two countries and are likely to foment continued hostility in the relationships between various ethnic groups.

Continued desertification, growing scarcity of fresh water and the large anticipated increase in rural population are likely to exacerbate population movements throughout the region. They will make it difficult for cities of all sizes to absorb these populations in an orderly manner. Conservation and maximum re-use of available water will be paramount in meeting the needs of future urban populations.

2.2.2 Humid West Africa

The Humid West Africa sub-region lies directly below and to the west of the Sahelian countries. It runs along the southern coast of West Africa. The sub-region includes nine countries, all of which have direct access to the Atlantic Ocean (Guinea Bissau, Guinea, Sierra Leone, Liberia, Côte d'Ivoire, Ghana, Togo, Benin and Nigeria).

Basic characteristics

The sub-region enjoys favorable climatic conditions with high and regular rainfall and soils of reasonable quality. Population growth, migration and related food requirements, however, have exerted heavy environmental pressure on both the rain forests and the coastal regions.

Destruction of the rain forest is taking place at a rate of about 2 percent per year and at an even higher rate of 5 percent in Côte d'Ivoire. This destruction of wooded areas also eliminates much of the region's biodiversity.

Demographic growth

The Humid West Africa sub-region has been experiencing an average population growth rate of around 3.1 percent. According to the UN's 1992 projections, its total population is expected to grow from 157 million in 1990 to 286 million in 2010. If achieved, this growth would be an increase of 129 million people or roughly 82 percent. These population estimates do not include any additional, unexpected migration from the north. During this same period, the urban population of the sub-region is expected to increase by roughly 89 million people or 162 percent and the rural population by 40 million people or almost 40 percent. Roughly half the total population is expected to be living in urban areas in 2010. The country with the largest increase in urban population is expected to be Nigeria with almost 63 million new urban residents. All of the other 8 countries combined will increase their urban population by 26 million people or only about 40 percent of the projected increase for Nigeria alone.

Settlement patterns

Settlement patterns within this sub-region are characterized by a wide array of urban forms and traditions linked to both indigenous and colonial cultures. The sub-region includes a number of important pre-colonial, indigenous or Islamic inland cities, particularly in Nigeria, and a rapidly consolidating band of urbanization along the coast that began with European colonization. Trade has been the dominant force in the development of the sub-region so that key urban settlements with access to the coast have now become major centers for trade and exchange.

Most colonies in this sub-region were not established for the purposes of large-scale European settlement but for limited, mercantile reasons. As a result, the local indigenous population was not generally dispossessed of their land or rights to its use. The degree of tension over land between Europeans and Africans during the colonial period has been considerably less than more current problems between indigenous tribes and non-local groups that have subsequently migrated to urban areas.

A compounded rate of population growth close to 3 percent per year and a steady flow of migrants from the Sahel over the last three decades have resulted in roughly 40 percent of the population in this sub-region already living in cities. About one third of the total population of the sub-region is now concentrated within a 60 kilometer-wide band running along the southern coast. An increasingly large part of this population lives in slum areas that are characterized by growing poverty and disease.

Based on 1992 UN projections, this sub-region will include 13 of the largest 50 cities in sub-Saharan Africa in 2010. These cities will include Lagos, soon to be the most populous city in sub-Saharan Africa with close to 10 million inhabitants, the third largest city with close to 5 million people, 5 other cities with populations between 2 and 3 million and the remaining 6 cities with populations roughly between 1 and 1.5 million people. Five of the 50 largest, sub-

Saharan cities will be in Nigeria. The names and projected rankings of the largest cities in the sub-region are: Lagos (1), Abidjan (3), Kano (14), Accra (16), Conakry (17), Ibadan (18), Cotonou (24), Lomé (34), Kaduna (37), Freetown (41), Maiduguri (42), Aba (47) and Monrovia (49). These 13 cities will absorb roughly 19 million new inhabitants or about 21 percent of the total anticipated increase in the urban population. The remaining 70 million increase in the urban population will occur in cities outside of these major urban areas.

Environmental pressure points

There are two particularly sensitive areas, or potential environmental pressure points, that require special attention. The first and most obvious area is the 500 kilometer long coastal zone running from Accra in Ghana to the Niger Delta in Nigeria. Based on existing trends, this area is likely to become a major urban megalopolis of more than 50 million people during the next two decades. Industrial and urban development have produced increasing levels of pollution particularly in the Niger Delta of Nigeria, which includes three of the four Nigerian oil refineries, the National Fertilizer Company, and large quantities of untreated urban sewage. The second sensitive area or pressure point includes the Fouta Djallon, Mount Nimba and Loma areas in Guinea where heads of the major watersheds for the Gambia, Niger and Senegal rivers are located.

There is also considerable environmental degradation in southeastern Nigeria due to oil development which is likely to generate increasing friction between local ethnic groups and communities who do not benefit from this activity and no longer want to suffer from its health and environmental damage. This area has already experienced a long civil war in the past over the use and benefits of natural resources.

2.2.3 Congo Basin

The Congo Basin is located around the Congo River in the west-central part of sub-Saharan Africa. The sub-region includes 7 countries (Cameroon, Central African Republic, Congo, Gabon, Democratic Republic of Congo, Equatorial Guinea and Sao Tome). All of the countries except the Central African Republic have access to the Atlantic Ocean.

Basic characteristics

Much of the land area in this sub-region includes the second largest, contiguous, primary tropical rain forest in the world. This rain forest houses a unique biodiversity capital of global significance. It also sequesters a considerable amount of carbon. Pressure to clear the rain forests remains relatively low, except at the periphery where they come into contact with areas of high population density. The current annual rate of deforestation is only about 0.5 percent. Nevertheless, maintaining the primary rain forest in tact for global biodiversity and climatic reasons is a very high priority and special concern of USAID.

Cultivated land in the sub-region represents only about 15 percent of its total land area. Agricultural activities are focused on supplying a growing urban market and on maintaining permanent plantations. Economic activities in the sub-region include forest exploitation, mining, gas and oil exploration, and industrial activities that have high potential for future economic

growth. Several of the countries in the sub-region have already achieved relatively high levels of GNP (i.e., Gabon, Congo and Cameroon) with the Democratic Republic of Congo, the sub-region's largest country, also in a position to achieve positive results as soon as political stability and better management practices have been achieved.

Demographic growth

The Congo Basin sub-region has had an average population growth rate of around 3 percent. According to the UN's 1992 projections, the total population of this area is expected to grow from roughly 55 million in 1990 to almost 99 million in 2010. This growth would be an increase in the overall population of roughly 44 million people or 80 percent. The urban population of the sub-region is expected to increase by roughly 25 million people or 145 percent, while the rural population is expected to increase by almost 19 million people or about 50 percent. The percentage of the population living in urban areas in 2010 is anticipated to be around 44 percent. The Democratic Republic of Congo is expected to experience the largest increase in urban population of close to 26 million people. This is almost 60 percent of the total population increase for the entire sub-region. The anticipated increase in urban population in the Democratic Republic of Congo is also more than the total population increase for all of the other countries in the sub-region combined.

Settlement patterns

The settlement patterns in this area were also linked to colonization and to the extraction of raw materials through mining and plantation activities. UN projections made in 1992 indicate that this sub-region will have only seven of the largest 50 cities in sub-Saharan Africa in 2010. These cities will include the second most populous city with close to 8 million people, 3 cities with populations between 2 and 2.5 million people, two cities with 1.5 million people and the sixth city with a population of roughly 900,000. Three of these cities will be in the Democratic Republic of Congo and two in Cameroon. The names and projected rankings of these cities are: Kinshasa (2), Douala (15), Yaounde (21), Lubumbashi (23), Kisangani (35), Brazzaville (36) and Bangui (50). Together, these seven cities will absorb roughly 11 million new inhabitants or roughly 44 percent of the total increase in the urban population for this sub-region.

Environmental pressure points

The environmental pressure points in this sub-region are somewhat less severe than those found in other areas of sub-Saharan Africa. Major environmental concerns focus on: protecting the primary rain forest for global biodiversity and climatic reasons while encouraging local use of its benefits; guiding urban and industrial development in the coastal zone; and accommodating migration to the coast coming from the peripheral zones of the existing forests. Other potential environmental pressure points include the Kivu area and the western highlands of Cameroon through which the proposed Chad-Cameroon oil pipeline is scheduled to pass.

The sub-region has also been victim of very poor management and political instability. This has led to erratic development and to serious problems for cities and natural areas alike during times of conflict. In addition, the two capital cities of Brazzaville and Kinshasa, which face each other

across the Congo River, have both recently been the subject to violent changeovers in government.

2.2.4 East Africa

The East Africa sub-region is located in the east-central part of Africa. The sub-region includes seven countries (Burundi, Eritrea, Ethiopia, Kenya, Rwanda, Tanzania and Uganda). Burundi, Ethiopia, Rwanda and Uganda are all landlocked countries, while Kenya and Tanzania have access to the Indian Ocean and Eritrea has a long coastline along the Red Sea.

Basic characteristics

This sub-region is renowned for its unique scenery and the diversity of its parks and reserves which has made international tourism a major factor in the area's economic development and in the generation of foreign exchange.

The sub-region has good soils in the highlands and a rather temperate climate, conditions that have favored the development of intensive agriculture despite the many areas of relatively steep slopes. The sub-region also includes large tracts of less favorable lands under arid and semi-arid conditions. The population is essentially rural with the lowest percentage of population living in urban areas in all of sub-Saharan Africa. Burundi and Rwanda, in particular, have very low levels of urbanization, with only about 6 percent of their populations currently living in cities.

Population pressure on arable lands in Burundi, Kenya and Rwanda, however, is very high with a ratio of only 0.10 hectares to 0.24 hectares per capita. About a quarter of the total surface of the sub-region is cultivable which makes it extremely difficult for local agriculture to meet the needs of the area's growing population. Permanent intensive cropping is the current pattern in the favorable highlands, but soil degradation is very high under low-input technology and the lack of adequate measures to control erosion. Forest cover is less than 20 percent of the total land area. Small remaining pockets of primary mountain-based rain forests, with their own unique biodiversity, are currently at risk due to the scarcity of land and to growing population pressure. The annual rate of deforestation is close to 1 percent.

Demographic growth

According to the UN's 1992 projections, the total population of the East Africa sub-region is expected to grow from 130 million in 1990 to 235 million in 2010. If achieved, this growth would be an increase of roughly 105 million people or 82 percent. The urban population of the sub-region is expected to increase by roughly 41 million people or 206 percent. During the same period, the rural population is expected to increase by almost 65 million people or 59 percent. The percentage of the population living in urban areas in 2010 is anticipated to be around 26 percent. Three countries will experience an increase in urban population that will be close to 12 million people - Ethiopia, Kenya and Tanzania. All of the other countries combined will increase their urban population by only slightly more than 5 million people.

Settlement patterns

The East Africa sub-region has the lowest level of urbanization among all six sub-Saharan regions. Its urban tradition has largely been limited to trade-dependent coastal areas and its urban forms have a strong colonial influence. Several of its major settlements date back to the early Arab and Portuguese traders. The lack of mining and plantation investment, except perhaps in Kenya, has hampered the development of major urban infrastructure. In general, each country has only one primary settlement.

UN projections made in 1992 indicate that this sub-region will have six of the largest 50 cities in sub-Saharan Africa in 2010. These cities will range in size from roughly 2 to 5 million people. Two of these cities will be in Kenya. The names and projected rankings of these cities are: Addis Ababa (8), Nairobi (9), Dar es Salaam (11), Kampala (25), Mombasa (30) and Asmara (32). These six cities combined will absorb close to 11 million new inhabitants or roughly 27 percent of the total increase in the urban population in this sub-region.

Environmental pressure points

The Ethiopian highlands (i.e., areas 1,500 meters or more above sea level) cover almost half of the country, contain almost 90 percent of Ethiopia's population and have 95 percent of the area regularly cropped. Large areas of these highlands have been severely eroded. Because of this erosion, virtually the entire area is to be considered as an environmental pressure point.

Central areas around Dodoma, Shinuyanga and the Lake Victoria region in Tanzania represent another environmental pressure point. They all have high population densities and high degrees of land degradation. Lake Victoria itself has been identified as an environmental pressure point for Kenya, Tanzania, and Uganda. Parts of the Kenyan and Tanzanian coasts around Mombasa and Dar es Salaam have also become areas of serious environmental concern.

2.2.5 Southern Africa

The Southern Africa sub-region covers the entire southern end of the continent and is bordered by ocean on three sides. The zone encompasses ten countries: four with access to the sea (Angola, Namibia, South Africa and Mozambique) and the rest completely surrounded by land (Zambia, Botswana, Lesotho, Swaziland, Zimbabwe and Malawi).

Basic characteristics

This sub-region is rich in terms of biodiversity and agricultural potential even though large areas are under semi-arid and arid conditions. Almost half of the total area is cultivable with reasonably good soils but with highly variable climatic conditions and the risk of recurrent droughts. Past farming policies that failed to stimulate adequate soil and water conservation have had a negative impact on the environment in certain parts of the sub-region. Forest cover amounts to about 40 percent of the total area. A significant part of the sub-region is also under plantation particularly in South Africa. Estimated annual deforestation rate for whole sub-region is 0.5 percent. Farming patterns are diverse and cover a full range of practices. A key challenge

in South Africa and Zimbabwe is to maintain cost-effective agricultural production, while accommodating the land needs of the large population of small land holders.

Demographic growth

Based on the UN's 1992 projections, the total population of the Southern Africa sub-region is expected to grow from 94 million in 1990 to 157 million in 2010. If achieved, this growth would be an increase of roughly 63 million people or 67 percent. The urban population of the sub-region is expected to increase by roughly 43 million people or 127 percent. During the same period, the rural population is expected to increase by almost 20 million people or 33 percent. The percentage of the population living in urban areas in 2010 is anticipated to be around 49 percent, second highest of the six sub-regions in sub-Saharan Africa. South Africa will experience an increase in urban population of close to 16 million people, while Mozambique will increase its urban population by 9 million people. The urban population will increase by more than 200 percent in Botswana, Mozambique and Malawi.

Settlement patterns

Human settlements in Southern Africa range from small village settlements that are closely linked to agriculture and have little functional complexity, to major metropolitan areas that are among the most industrially developed and diversified in sub-Saharan Africa.

Most of the major cities in this sub-region were originally built as places for "European" style living by settlers and colonial administrators with very high standards for land use and infrastructure. Beginning in the 1880s, the spatial segregation of settlers and the local population was rationalized as a means to protect the European population from local sanitation problems and the possible spread of disease. This form of segregation was replicated throughout much of Southern Africa. It included not only specific segregative devices such as peripheral locations or "townships" and single sex compounds for male migrant workers, but also many other facets of "native policy" including systematic restrictions on rural-urban migration and urban residence by native Africans. The results of this segregation have caused many of the problems that plague Southern African cities today.

Urbanization in Southern Africa is increasingly being shaped by migration and is well under way in the mining and industrial countries such as South Africa, where the population is now about 50 percent urban. Botswana and Mozambique have also been experiencing migration and rapid urbanization for very different reasons: the former because of the economic boom associated with diamond mining and the latter as a result of its recent civil war.

Environmental pressure points

Environmental pressure points include significant soil degradation in grazing areas in Angola, deteriorating coastal zones in South Africa, pollution of the Lake Malawi area, draining of the Okavango inner delta and air pollution in the Pretoria/Johannesburg area.

The Okavango Delta and River Basin, which is the world's largest inland wetland and a prized natural paradise, is an area of particular concern because of the potential political and

environmental damage that can be done. Namibia's plans to draw 20 million cubic meters of water each year from the Okavango River to supply its capital Windhoek, has sparked sharp protests from the Botswana government and environmentalists. Botswana's plans to drain the area to meet its own water needs have met with similar resistance from neighboring countries and international environmental groups.

Air pollution problems are serious in the most populated areas of South Africa due to coal-based energy and industrial development that is particularly related to mining. These settlements have to cope with providing and maintaining the social and physical infrastructure to which residents have become accustomed. Sustenance of colonial traditions in terms of high quality standards related to the built environment is emerging as a major issue.

2.2.6 Islands of the Indian Ocean

This sub-region includes four island countries (Comoros, Madagascar, Mauritius and Seychelles). Madagascar dominates the group by its size, exceptional diversity of its landscapes and uniqueness of its flora and fauna. Mauritius and the Seychelles have experienced solid economic development through international tourism. Mauritius has also embarked on industrial development and the establishment of a major export processing zone for the Indian Ocean region.

More than half the total area of these islands is cultivable with relatively good soils and generally favorable climatic conditions. Their generally broken terrains, however, have increased the risk of erosion. Whereas forests were predominant in the past, they now cover less than a quarter of the area of these islands. The overall annual rate of deforestation for the sub-region is close to 1 percent with particular concern in Madagascar. Although the small islands in this group are intensively cultivated with market-oriented production, Madagascar features a much more diversified situation.

Demographic growth

UN 1992 projections indicate that the total population of these four island countries is expected to grow from almost 14 million in 1990 to around 25 million in 2010, a total increase of close to 11 million people or 79 percent. During the same period, the urban population is expected to increase by roughly 6 million people or 181 percent, while the rural population is expected to increase by about 5 million people or 50 percent. The percentage of the population living in urban areas in 2010 is anticipated to be around 39 percent. Madagascar will increase its urban population by close to 6 million people or roughly 92 percent of the total increase in urban population for all four of the islands. The Seychelles will be the most urbanized country in the region in 2010 with almost 75 percent of its population living in urban areas.

Settlement patterns

The urban population in Madagascar has largely settled in the central highlands and eastern side of the island. The western side has been left almost empty. Madagascar has not yet succeeded in promoting an even distribution of its population that matches the conditions of its natural

resources. The existing ring of coastal cities in this country is a good example of this mismatch, since many of the negative impacts on the surrounding resource base are caused by the demands of these coastal cities.

Environmental pressure points

The environmental pressure points within this sub-region include the central highlands and the mountainous eastern zone of Madagascar. The central highlands feature the most intensified agricultural area of the country but also a high degree of soil degradation as a result of erosion. The eastern zone contains the country's remaining tropical rain forest with some of the world's richest biodiversity. The area is at risk due to population pressure and lack of erosion control.

Chapter 3

Principal Environmental and Economic Issues

Many of the major environmental and economic issues to be addressed in sub-Saharan Africa concern the strategic choices to be made about economic and ecological security, trade, aid, access to science and technology and equity. None of these choices involve simple "either-or" decisions. Most of them require an appropriate balance to be established between seemingly contradictory orientations. Only through a truly, cooperative and collaborative effort between the international, national and local communities will it be possible to achieve productive and sustainable results. As strongly emphasized in the document "Making Cities Work," communities at all three levels have a vested interest in the successful outcome of these choices.

3.1 Globalization and Self-Sufficiency

The current globalization of both the world economy and systems of communication are changing all previous conceptions about development by creating economic entities that consider virtually every region of the world as either: a source of raw materials; a production center; or an emerging market. Globalization is based on international trade and on the assumption that countries should produce and export those goods and services for which they have a comparative advantage and which they can sell competitively on the open world market.

Globalization is not a trend. It is the predominant characteristic of modern civilization as we move into the next millennium. It is a process that occurs through cities and involves the interdependence of economies and the globalization of capital and labor around the world. Whether or not this process leads to genuine, sustainable development or simply exacerbates the growing disparity between rich and poor and/or hastens environmental degradation will be determined during the early part of this coming century.

The liberalization of economies and the globalization of trade have resulted in an unprecedented flow of resources at the international level. International private sector investment in developing countries virtually quadrupled from \$44 billion in 1990 to \$167 billion in 1995.⁶ Much of this investment has been used to establish bases either for exports or increasingly for directly servicing local or regional markets. Relatively little of this flow of private capital has gone to Africa. However, the situation may be changing, as pointed out in Annex H; despite continued economic and political trouble on the continent, as well as structural economic problems that have yet to be solved, sub-Saharan Africa is posting new highs in economic growth rates. The trend is still fragile and new, with some of Africa's largest countries -- notably the two Congo's, Angola, Sudan and Nigeria -- still in political turmoil or economic straits, or both. And, some analysts say there is not enough evidence to tell whether the new growth rates in Africa are a new beginning or just a blip; many concede that the rates largely reflect the fact that African economies had nowhere to go but up. But a task force sponsored by the Council on Foreign

⁶ Simon, *op. cit.*

Relations urged U.S. policy makers recently to take advantage of what it called “the most promising period since the onset of African independence 40 years ago.”

Sub-Saharan Africa remains inserted in the world economy primarily as a producer of raw and semi-processed mineral, agricultural and tropical forest commodities and as an importer of a very high proportion of its consumer durables and required capital goods. The lack of foreign investments, a negligible involvement in international trade, and a steep decline in export revenue, coupled with limited domestic savings and investments, indicate that the sub-Saharan region is not yet ready to share in the mostly urban-based, technological advances that are being achieved through globalization. The continent is currently in serious danger of being left further behind the rest of the world in terms of this globalizing process.

At the same time that sub-Saharan Africa must work to improve the international competitiveness of its cities with global potential, it must also foster greater economic development for non-global cities and, in particular, those with smaller, community-based economies. These local economies need to be revitalized, diversified and made at least partially self-sufficient. Small-scale operations are required that are: flexible; adaptable to local needs and environmentally sustainable methods of production; and build upon the capacities of the informal sector. Such operations are generally more readily subjected to democratic control, less likely to threaten to shift their center of activities to another area, and more likely to perceive their interests as overlapping with those of the community.

The success of the smaller, non-global cities will depend on strengthening their internal economies through the development of productive linkages with their rural hinterlands and the building of new competitive advantages to attract future investment.

Sub-Saharan governments must determine the necessary balance in allocating scarce public sector resources among globalizing, regional and local cities as part of an overall strategy to balance and strengthen their networks of human settlements.

3.2 Exports, Trade and Import Substitution

Strategic choices in export production and import substitution are closely related to economic development and the process of globalization. Import substitution was one of the basic tenets of African development until the arrival of the current debt crisis and globalization movement. The few cities in sub-Saharan Africa that could be classified as industrialized have continued to focus on the import substitution of consumer non-durables and durables and not on large-scale export or production of capital goods.

The rapid rise in oil prices in 1973 and 1979, the negative impact of the world-wide recession that began in the early 1980s, the accompanying rise in international interest rates and the intrusive control of national government finances by international lending institutions through the process of structural adjustment have all made it very difficult for African economies to cope with the current debt situation. Until now, the poor and the environment have borne most of the

negative fallout from this situation. Subsidies, price controls and social services have been pared away, while deregulation, privatization and the urgent need to earn more foreign exchange through exports have been pursued, even when they have proven to be harmful to the environment or when the terms of trade have deteriorated. Current economic belief holds that poor countries must concentrate on the production of export commodities rather than goods for the domestic market if they are going to participate in the global economy and to generate the necessary foreign exchange to repay international debts.

The most notable feature of the current sub-Saharan debt crisis is that virtually all of the countries in the region have been severely hit, irrespective of their size, population, resource base, level of economic development, political ideology or national development strategy. There has been a very dramatic, across-the-board increase in sub-Saharan debt since 1970, both in absolute terms and as a percentage of GNP. Domestic investment is still of great importance in terms of long-term structural value. As noted in Annex H, capital accumulation and savings rates in Africa average 17 percent and have not grown since 1990; savings rates in Asia, in contrast, average about 30 percent. The growth trend that has begun in Africa is pushing up against the limits caused by the absence of the next step of reform, which is capital investment and savings. African economic policies must clearly foster higher rates of savings and investment to create local wealth.

The debt service ratio determines the proportion of export revenues required to pay interest and principal on outstanding debts. It is used to measure the severity of a country's debt. The countries with the highest debt-service ratios in 1988, in addition to the very poor countries of Ethiopia and Niger, were those that were all once models of capitalist development based on IMF and World Bank criteria. These now highly indebted countries include: Côte d'Ivoire, Kenya, Nigeria and South Africa.

Once again, an effective balance needs to be established between policy and investment priorities that promote the production of necessary exports to repay international debt and those that encourage the development of products for domestic consumption as a means of replacing unnecessary imports and fostering greater self-sufficiency. African cities will be the scene of most of these decisions since trade and commerce are their main activities.

3.3 Traditional and Modern Patterns of Consumption

The extent to which countries are developed is often measured by economic indicators related to production and consumption. Evolving patterns of consumption will determine the essential balance to be reached between export and import substitution throughout sub-Saharan Africa. As the spread and pace of globalization grows, the patterns of western or "modern" consumption, through which one-fifth of the world's population now consumes some four-fifths of its resources, will become increasingly pervasive and attractive to a growing proportion of the African population. The emerging global economy, by its very nature, will actively seek to transform the mass of still largely self-sufficient people living in the rural areas of developing regions like sub-Saharan Africa into consumers of capital intensive goods and services that are

largely provided by foreign corporations. Simply multiplying the region's current and projected population by the typical per capita resource consumption found in today's modern societies shows that this type of development cannot realistically be replicated in sub-Saharan Africa, or even in most other areas of the developing world as well. There is an increasingly urgent need to redefine the direction of development in order to avoid the growth of exorbitant, wasteful patterns of consumption and to achieve a progressive reduction in the unecological exploitation of resources. More informed demand based on the culture and genuine needs of the population is required that will determine the priority of consumer goods to produce locally and to import. Future attitudes and habits about consumption will increasingly be formed in cities.

Despite their flaws and limitations, traditional societies have been socially and environmentally sustainable over long periods of time. This has been due to their close relationship with their natural surroundings and to their adaptability. There are still areas in sub-Saharan Africa where communities earn their livelihoods in ways that are consistent with the preservation of their culture and of their natural environment. It is in the development of areas such as these that new, ecologically sound societies will be born. The technological and cultural wisdom of indigenous systems of agriculture, industry, shelter, water and sanitation need to be rediscovered and oriented towards current needs in order to realize this achievement. Small- and medium-size cities provide fertile ground for this achievement to take place in Africa.

Sub-Saharan governments need to take actions that will encourage the use and consumption of locally made products as opposed to those coming from abroad. Instead of simply allowing local demand to be influenced by world-wide advertising and supply, there is a need to encourage more informed demand based on traditional and sustainable patterns of consumption. "Green labeling" of products produced in an environmentally sensitive manner is one way for this demand to influence world supply, while at the same time creating a potential comparative advantage for exports. Removal of subsidies that favor imported goods and undermine local production is another.

3.4 Natural Resource Inputs and Urban Waste Outputs

Perhaps the most critical environmental relationship between sub-Saharan cities and their rural hinterlands involves the cycle of natural resources and wastes that flow between them. Urban areas are man-made ecosystems that depend on the surrounding natural and agricultural ecosystems to supply the renewable and non-renewable products, resources and goods that they need (e.g., minerals, fossil fuels, air, water and food). Natural ecosystems provide very important biological, physical and chemical processes that ensure sustainability (e.g., biological decomposition, photosynthesis, mineral cycling and gaseous exchange). Urban areas provide a spatial environment for human actions and activities to take place. As the size and importance of African cities and their economic activities rapidly expand, they will have increasingly important impacts on the surrounding environment. Even impacts that could be adequately absorbed in the past will become more serious environmental concerns in the future as a result of their growing accumulation.

The fact that human activities alter urban, agricultural and natural ecosystems is not intrinsically bad or undesirable. Even agricultural ecosystems are human-made communities of plants and animals that interact with soils and climate. Unlike self-perpetuating natural systems, both urban and agricultural ecosystems are inherently unstable and require constant care and management. The basic objective, therefore, should not be simply to protect the biosphere and natural ecosystem from changes related to human activity, but to establish non-destructive and mutually reinforcing relationships between human activities and the surrounding natural, agricultural and urban ecosystems.

Urban ecosystems are principally concerned with the organization, distribution, use and management of energy and matter. Most African cities have been growing much too fast for these processes to be implemented in a satisfactory manner. More intelligent management of available resources is required to preserve, enhance and retard deterioration and to restore both urban and natural ecosystems within African cities and around their peripheries. A cyclical pattern in the use of materials must be established that aims to recover used materials, minimize waste and curtail the use of irrecoverable resources to the greatest possible degree. This fundamental change in urban behavior must recognize the interconnectedness of ecological phenomena and the fact that there are inherent limits to natural resources and to the surrounding environment's ability to absorb urban wastes.

Urban waste, however, does not have to be viewed only as a problem if it can be used efficiently to serve as an input to some other enterprise or activity (e.g., as fertilizer, feedstock, industrial cooling element, agricultural heating element etc.) Treating waste as an economical resource from which marketable products can be derived, and not simply as a health and environmental hazard, will help reduce the amounts of waste to be treated and the need for public financing and/or subsidies related to this treatment. The proper recycling of wastes can also create job and income opportunities, improve social and community cohesion and provide significant, environmental benefits.

Opportunities to re-establish constructive links between land and cities are very closely tied to the food consumed by the urban population. Cities and their peripheries are where these links must be re-established and where alternatives to inappropriate agricultural technologies can be explored and demonstrated through direct experiences with soil productivity, recycling of nutrient and material resources, and urban metabolic processes.

Recycling is valuable not only because it is a superior disposal technique, but also because the use of recycled, as opposed to virgin materials dramatically reduces the amount of natural resources to be used in the production process. The lower production costs that are achieved provide the basic incentives for private sector producers to become more involved in the recycling of their materials.

Relationships between urban resource use and waste provides a tremendous challenge and opportunity to the international community, including USAID, to apply its knowledge and experience working with natural and agricultural ecosystems to an urban context. Some specific

areas in which this expertise can be used include: urban farming, wetlands management, ecological engineering related to solid waste and waste water treatment, regeneration of natural areas and environmentally based land use planning.

Many of the problems generated by sub-Saharan cities and imposed on the larger natural environment will have to be resolved within the cities themselves. Efforts to resolve these problems can draw all of a city's environmental and spatial elements into an integrated framework to serve according to their capabilities, whether it be producers of food and energy, moderators of micro-climate, conservers of water, plants and animals or providers of natural amenities and recreation.

3.5 Environmental Protection and Economic Growth

Environmental protection and economic development have often been viewed as separate, if not opposing, activities. Discovering how to combine these two imperatives without endangering their respective importance and value to African cities lies at the very heart of any new urbanization approach.

Making short-term economic growth the most important objective, irrespective of the collateral costs that it might impose on the country, invariably leads to environmental degradation. The short-term profit motives of many private sector producers are strong incentives for them to ignore the costs to society of their use and/or degradation of natural resources. Under this short-sighted economic approach, environmental concerns are perceived primarily as obstacles to the imperatives of rapid economic development. Globalization means that many developing country governments, including those in sub-Saharan Africa, will not set environmental conditions that will jeopardize their competitive position to attract foreign industrial investment. Many environmental values risk being damaged as a result. It should always be in the long-term interests of a country to implement stronger environmental policies that promote health, quality of life and productivity, all of which are necessary to provide a sound and sustainable environment for long-term international and local investment.

It is also a very difficult process for sub-Saharan countries to adapt existing administrative structures to new trans-sectoral aims. Most African countries have neither the technical capacity nor the institutional or legal frameworks to do so. In many cases, existing government agencies view the inclusion of an "environmental component" as just another source of bureaucratic headaches and the means of triggering debilitating and paralyzing power struggles between governmental agencies. The powerlessness of new environmental institutions, usually ministries or other institutions that carry no real weight in the decision-making process, can often be seen by their administrative isolation and limited budgets. The leverage of these environmental organizations in dealing with governments and corporations, however, can be increased when they cooperate and coordinate their activities. Similarly there is a lack of citizen awareness concerning the impact of environmental problems on health and quality of life, particularly in the poorest slum and shanty areas in sub-Saharan cities where day to day survival is extremely

difficult and shortages of housing and basic services have become the main environmental concerns.

Development pessimists argue that economic growth will inevitably result in increased production and consumption and lead to even greater pollution and pressure on natural resources. Development optimists are convinced that the overriding imperative is to reduce poverty and that any direct response to environmental issues must take a back seat to the pursuit of expanded exports and current conceptions of economic growth. The balance obviously lies between the two.

It is important for African governments to influence investor decision making by designing policy tools that have predictable and quantifiable impacts on profits. This will enable both local and foreign investors to evaluate potential risks and rewards of anticipated activities. Clear and stable rules are particularly important to foreign companies looking to invest in sub-Saharan Africa. Optimal trade policies also cannot be set without taking the environmental effects into account and vice versa. Too little, in fact, has been done to incorporate local economic considerations and development concerns into international environmental policy making.

African countries also need to design policy tools that can simultaneously pursue the benefits of sound environmental management and real economic growth. Such tools will include properly designed and implemented market-based environmental policies, instruments and regulations that encourage appropriate environmental behavior through price signals rather than through explicit instructions. They will include incentives for businesses and individuals to act in ways that further not only their own particular goals, but also the basic environmental aims of reducing waste, cleaning up the air or reducing water pollution. Market based instruments that align corporate financial incentives with environmental objectives have shown themselves to be the most cost effective ways to provide the necessary impetus for companies to innovate and to adopt cheaper and better technologies that can control pollution. This approach also leaves greater room for economic growth and/or the adoption of even more stringent environmental standards if they are needed.

There is no doubt that sub-Saharan countries and cities must become more competitive in order to attract the necessary foreign investment. This does not mean however, that they should simply adopt "capitalism with a green face" as a politically correct screen behind which business-as-usual can be carried out. The international community has a responsibility to work with sub-Saharan countries to make sure that the full, life-cycle, environmental costs of investments are thoroughly considered. Environmental policies that focus only on the obvious problems facing factories and extractive industries are not broad enough to address successfully the more complex environmental problems related to either the "green" or "brown" agendas.

3.6 Green and Brown Environmental Agendas

A major political difference exists between developed and developing countries in terms of the emphasis and priority to be placed on the "green" and "brown" environmental agendas. The

largely resource-based green agenda focuses primarily on global environmental problems such as global warming, ozone-layer depletion, biodiversity, deforestation and the exhaustion of nonrenewable resources. The largely city-based brown agenda focuses on local environmental concerns such as congestion, water and air pollution, lack of basic services and open space, declining infrastructure, and poor housing conditions. The fact that these agendas have large areas of overlap and that they can be carried out in tandem is too often overlooked. Visible improvements in the "brown" agenda will increase environmental awareness and support for the "green" agenda as well.

Attempts to establish environmental agendas for cities in sub-Saharan Africa and other developing areas have made two important considerations very clear. First of all, they have shown that environmental advances are hardest to obtain when poverty forces people to focus almost exclusively on short-term, survival decisions. And secondly, they have underlined the urgency to establish alternative modes of development that can stop the growing deterioration of the urban environment and the multiplication of daily environmental problems that directly affect the population. The most immediate of these concerns include: waste management, drainage, transportation, housing quality, land use planning and open space recovery.

Sustainable development is increasingly being regarded as a challenge for global management. As a result, a growing amount of effort is being devoted towards determining the necessary planetary balance to be achieved between human extractions and emissions on the one hand and the regenerative capacities of nature on the other. While the need for some element of global management is obvious to many, the major question remains as to who will actually be responsible for this management and how will the rest of the world respond. Many developing countries feel that the imposition of a global agenda is simply a new form of colonialism aimed at impeding their economic growth. While this may not be the case, it is inevitable that claims of global management will often be in conflict with the aspirations for cultural rights, democracy and self-determination by countries throughout the sub-Saharan region. It is also easy for an ecocracy that acts in the name of "one earth" to become a threat to local communities and their particular modes of life. Decisions about who decides are obviously critical, particularly when they have an impact on our "global commons." Better information and understanding about the environment and its importance to sustainable economic development will help achieve a more common point of view.

Donor agencies and individual governments must work together to assign new meanings to the concepts of development and socio-economic progress in sub-Saharan Africa. The obvious place to start involves a resolution of the ongoing dispute over "green" and "brown" environmental agendas. Continued donor interest in the "brown" agenda is essential.

3.7 Private and Public Sector Financing of Infrastructure

As African cities continue their rapid growth, the inability of their local governments to finance the most basic infrastructure necessary for economic development will become an extremely critical constraint. Efficient infrastructure and services are necessary for the development of

modern, competitive industries and the smooth flow of goods and services. Cities traditionally draw on four potential channels of funds in order to finance and maintain the necessary infrastructure for long-term, economic competitiveness. These channels include: municipal tax bases, central or regional governments, financial markets and capital sources outside of the city. Many African cities are currently starving for capital because they have not been able to use these channels in an effective manner. Property taxes are most frequently the largest source of local revenue for municipalities, with a limited amount of funds coming from taxes on individuals, business licenses and automobile licenses. Other very small sources of funds often include: user charges for garbage collection, market and taxi stand fees and funds obtained from slaughterhouses.

Given these existing difficulties, new forms of investment and collaboration are needed between public and private sectors that will increase the flow of funds for urban infrastructure. Various forms of public-private section partnership might include: joint ventures, international sub-contracting, franchising, licensing, turnkey or management projects, and production and risk-sharing agreements.

The demand for direct foreign investment to help overcome problems associated with the worldwide debt crisis and to assist in the reconstruction of Eastern and central Europe, has created unprecedented competition for available, worldwide capital. Sub-Saharan Africa's very weak economic situation has prevented the region from benefitting to any great extent from the availability of these funds. This means that the local private sector will be needed to help "jump start" economic revitalization in many African cities and to replace government as the principal source of investment in the environment. There is a need to establish the necessary mechanisms to channel private capital flows to environmental infrastructure and to ensure that appropriate environmental standards are adhered to in all development projects. The ways in which private capital is deployed will ultimately have a far greater impact than public sector funds on the environmental future of sub-Saharan countries.

A related characteristic of virtually all cities in sub-Saharan Africa is the importance of self-employment and small-scale enterprise in the so-called "informal" or petty commodity sector. While the nature, orientation and organizational basis for informal sector activities vary greatly throughout countries and cities within the region, there is no lack of capacity to provide the basis for small-scale, incremental and community-based approaches to the financing of urban infrastructure. Taxes and/or fees imposed by local authorities, for example, could be based directly on the benefits that communities and the informal sector actually receive. Incentives for waste recovery and sharing, so that the waste outputs from one activity become the inputs to another, should be actively pursued along with the possible establishment of waste buy-back depots and other revenue generating processes. Another approach that could be adopted involves the use of solidarity or mutual guarantee groups to provide the necessary collateral to obtain formal financing for tertiary infrastructure and urban service improvement. Businesses of mixed ownership and/or small-scale, private firms might also be awarded concessions or contracts to perform selected public services. A range of different management methods can be devised to

improve the efficiency and management of urban infrastructure and to improve the recovery of costs for reinvestment, maintenance and operation.

The scale of the development challenge facing Africa and the magnitude of the urbanization process clearly fall beyond the capacity of national and local governments to deal with them on their own. A productive partnership is required between the public and private sectors including formal, informal, non-profit, private associations and individual households acting as businesses. USAID and other international assistance agencies have already begun to help create these types of partnerships.

3.8 Western and Locally Based Planning

The planning of African cities during the colonial period was most often based on very formal European ideas and grid-type layouts that worked well for the foreign settler population as long as cities remained small and tightly controlled. Following independence, many of the same planning ideas, procedures and regulations were continued, either by default, or by the professional training and orientation of the local planning staff, or by the fact that local decision makers wanted to live in the same manner as the Europeans they displaced. These European-based planning ideas proved to be very poorly adapted to the ensuing rapid growth of sub-Saharan cities. They are primarily responsible for the faceless core areas and large neighborhoods of unauthorized housing found in African cities today.

One of the reasons for the failure of westernized planning approaches has been their lack of relevance to the growing multitude of individuals and households making their own decisions about where they live and work. Successful planning requires that people develop a real sense of place about their surrounding environment and a vision of what they want their communities to become in the future.

The first step in deciding how to live in a city is knowing what it is about, what systems and improvements are needed, what resources can be used on a sustainable basis, what the city's history indicates about its future, what its carrying capacity is and at what levels of consumption, etc. Without knowing the origins and causes of various opportunities and/or problems faced by African cities, it is impossible to react to anything more than the apparent symptoms of their condition. City development under the current rates of urbanization has become more reactive than proactive in shaping the future of African cities.

Much of the human-caused pollution and environmental damage is also due to the lack of information and knowledge about a city's natural ecosystem, the demand it has on natural resources and the pathways and cycles used by chemicals, resources and waste products. Without this knowledge, it becomes very difficult to plan or select development approaches and/or planning systems that make any ecological sense.

Planning will be effective only to the extent that it engages public and private sector consensus throughout the entire process and that concrete policies and actions are implemented

expeditiously. This consensus instills a sense of loyalty and civic culture in the population that is the principal strength of the now, more commonly used strategic planning and visioning approach.

The adoption of locally relevant planning ideologies and the transformation of the basic structure of African cities to meet the real needs of their populations and urban ecosystems are two areas where there has been a great deal of recent rhetoric and very little action. When new extensions are planned at all, for example, they generally perpetuate inherited colonial planning standards and building regulations. The potential value of locally appropriate planning precepts, architectural styles and use of local building materials, be they derived from indigenous practice or some modern hybrid, continue to be ignored or at least overlooked. Two areas where the process of city planning can be significantly improved include land use planning and the application of planning approaches that are tailored for different size cities.

If seriously applied, sustainable development should lead to urban development and land use patterns that are more environmentally compatible, economically efficient and socially equitable. The inherent links between land use choices and the environment and quality of life must be understood in order to achieve this sustainability. A new way of structuring urban form is required that uses a fully linked, continuous "green infrastructure" based on natural systems and the recognition that open space is not simply the absence of buildings but a functional land use in its own right. Such a green infrastructure may include natural habitat areas, land forms, aquifers and recharge areas, urban farms and rural lands, heritage landscapes, trails and other open spaces. A holistic approach to pollution, biodiversity and watershed health is required that makes these elements visible to city populations. The more that people understand these issues, the more likely it is that a constituency will emerge with a viable vision for a new African city and the type of mixed land use planning that is necessary to achieve it. Local citizens need to understand the inherent links between land use, clean air and water, safe and healthy neighborhoods, a prosperous economy and a stable tax base.

The planning of sustainable cities of widely varying sizes requires different forms of strategic planning and engagement of the local population. Large cities and metropolises require a planning approach that will essentially help the recent migrant population to "adopt" these cities as their home and that will enhance their productivity and ability to participate in the world economy. Medium-size cities, located in the rural heartland and furnished with adequate transportation connections, require planning that will strengthen their role as the economic and social relay points between major urban centers and rural areas. Small-size cities require planning that will support the organization and economic development of the rural areas that surround them. Each of these different types of city require distinct approaches to decentralized planning and local participation in the process.

Sustainable city development is becoming a very important topic throughout the world. There has been a growing dissatisfaction with the modern, automobile-based type of development found in industrialized countries. New approaches that focus on community building, mixed land uses and respect for the environment are developing in the United States and elsewhere. This

period of world-wide reflection on the future nature of cities comes just in time for sub-Saharan Africa which is now making its transition to urban living and still has the opportunity to develop its own unique solutions. The application of new urban planning approaches to sub-Saharan Africa can make a major contribution to the creation of sustainable cities in that region.

3.9 Mechanical and Ecological Engineering Solutions

As the very rapid growth of African cities continues, there will be even greater need to address the wide range of urban, environmental problems that result from factory emissions, sewage treatment discharges, agricultural runoff, household dumping of toxins in storm drains, acid rain and smog from highly urbanized regions, channelized creeks and habitat fragmentation due to urban development and deforestation.

Much of this environmental deterioration is due to the inadequate incorporation of relevant, environmental information into modern-day products and processes in order to improve their environmental fit. The nature of appropriate technology to be applied to address this deterioration depends on local needs and on the accompanying social, environmental and economic conditions. More customized, diverse ways of meeting city needs are required that mirror the natural ecosystem's countless partnerships and interdependencies and give the system its overall vigor and resilience. A frank assessment of the environmental conditions and financing capabilities of African cities leads to the conclusion that lower-cost, information-based and locally created ecological engineering solutions can have a more immediate and long-term beneficial effect than expensive, mechanical systems imported from abroad.

Too many of the imported designs in fact, are out of scale, energy addicted and full of unforeseen, harmful side-effects. Major dams, irrigation schemes and other large-scale, public-works projects are often good examples of engineering "overkill." They provide very specific benefits while creating a whole range of additional environmental problems and incompatibilities that were not originally anticipated. A better understanding of the fundamental dynamics of ecological systems and their limits is required so that more natural and intelligent systems can be incorporated into the design of solutions that creatively coexist within the natural and urban ecosystems. The design focus of these new systems should be placed on avoiding the causes of pollution and not simply on patching up the negative effects. They should aim to conserve energy and resources by using natural systems more effectively and intelligently and by clustering solutions. Actions to improve the environmental impacts related to the manufacturing of products, control of insects, conservation of water and treatment of waste all need to move toward a goal of mutual compatibility.

Technologies should not be proposed for sub-Saharan Africa that have already been found by the industrialized world to be expensive or ineffective. Conventional, mechanical, sewage treatment plants, for example, are very expensive to build and operate although they control only about half of the toxic chemicals that go into them. Roughly 15 percent of these toxic chemicals remain in the sludge, 20 percent become air pollutants and another 15 percent are discharged into receiving waters. Mechanical treatment plants also have a problem in disposing of the remaining sludge.

As a result of these deficiencies, the treatment of wastewater and sewage is now becoming a design science in which knowledge of environmental processes is being used to replace the previous needs for heavy energy and expensive equipment. Sewage treatment plants that make use of constructed marshes and wetlands to simultaneously purify water, reclaim nutrients and provide habitat are among the growing number of ecological engineering solutions throughout the world. These ecologically based systems can efficiently remove vast quantities of nutrients, detoxify compounds, and neutralize pathogens without chemicals, mechanical equipment, sanitary engineers or extensive fuel bills.

Newly emerging biological techniques for treating wastewater can also combine varying design strategies that include rice paddies and composting. By using aquatic plants in conjunction with microorganisms, fish, snails and other species, treatment efficiencies can be achieved at much lower costs than those of conventional facilities. Under an ecological approach, water hyacinth, duckweed, bulrush and ornamental canna lily can be used to convert sewage into clean water that is comparable in quality to that produced by the advanced treatment methods of conventional systems. Harvested plant material can then be used for animal feed, compost or biomass for the generation of methane. A major wastewater facility in San Diego, California for example, generates a substantial amount of electrical power from the methane gas that is produced by water hyacinths. While marsh treatment generally requires more land area than conventional treatment systems, it is less costly to install, has lower operational and maintenance costs, and can be operated and maintained by non-technical personnel.

Ecological engineering can have important benefits in other areas as well. Momentary flash flooding and soil erosion in urban areas are part of the price to be paid for having large areas of impervious paving for well-drained streets and civic spaces and for concentrating water flows to specific places. More paved areas and streets will only lead to greater storm run-off and flooding, more swollen streams and less water available to replenish groundwater systems and streams. Negative results will include eroded stream banks, expanded areas of flooding, impaired water quality and the disappearance of aquatic life. The damaging effects of erosion in ravine streams as a result of heavy rainfall will also increase as urbanization seals more and more ground surfaces through paving and the construction of buildings. Downstream solutions to problems caused upstream become more difficult and costly to implement, requiring larger culverts, more extensive protection of urbanized floodplains, increased straightening and stabilization of stream banks etc. All of these problems have led to a renewed interest in ecological methods of flood control that rely on natural drainage instead of storm drains and on healthy landscapes in which vegetation moderates flow, erosion is minimized and water is allowed to follow its own course. Water catchment from roofs and porous pavers are two very small-scale applications that can have very wide-ranging beneficial effects.

Similar ecological solutions can be developed and applied in order to reduce pollution from industrial systems. Increased urbanization and economic development means that environmental problems related to industrial pollution will increase very rapidly. Even though sub-Saharan Africa is still on the edge of industrialization, its industrial systems are growing much faster than the natural environment's capability to absorb their outputs. The sheer volume of these industrial

outputs are already reaching potentially damaging levels. One partial solution to this problem is to establish industrial systems that use waste streams that can be useful to subsequent processes in order to minimize pollution. Grouping industries in such a symbiotic manner can significantly reduce their costs of operation and the amount of pollution they produce. Carefully conceived land use planning and environmentally oriented "deal making" with private producers are required.

The choice now facing the multitude of small and medium-size cities in Africa is whether to wait until they can afford to install relatively expensive, mechanical solutions to their pollution problems or to begin addressing these problems using the information, intelligence and the natural resources they already have at hand or can easily obtain. Ecological engineering is a very appropriate area for USAID assistance in helping to establish more sustainable cities in Africa.

Chapter 4

International Support for Sustainable Urban Development in Africa

4.1 USAID

Both the Africa Bureau and the Global Bureau for the Environment and Urban Programs (formerly the Office of Housing and Urban Programs) have been involved in providing financial and technical assistance to sub-Saharan development since individual countries within the region began to obtain their independence.

4.1.1 African Sustainable Development Strategic Plan

The Plan for Supporting Natural Resources Management in Sub-Saharan Africa (PNRM) has served as the basis for the Africa Bureau's environmental strategy and overall guide for its policy objectives and programs for the last 10 years. Biodiversity, tropical forestry and sustainable agriculture have been the primary concerns of this plan.

The environmental impacts of urbanization and the linkages between urban and rural areas have only recently been considered at the strategic planning level by the Africa Bureau. The current Strategic Plan for Sustainable Development, produced by the Office of Sustainable Development for the period 1997-2003, specifically includes urbanization and the need to address urban issues under its Special Support Objective (SSO) on Environmental Quality. This SSO calls for the Africa Bureau to take stock of current trends in urbanization and energy requirements in sub-Saharan Africa in order to understand more fully their implications on the Bureau's strategy for sustainable development. Implementation of the SSO will enable USAID/AFR to identify the most important needs, opportunities and potential partners related to urbanization and the urban environment and to develop the capabilities and approach required to respond to these issues in a manner that is consistent with USAID/AFR manageable interests and comparative advantages.

SO5 calls for "progress accelerated in the development and spread of strategically viable natural resource management systems." The rapid urbanization of sub-Saharan Africa and the urban transition that is now taking place ensure that urban areas will have a growing impact on the important NEXUS of environmental quality, agriculture, productivity, food security and population growth and distribution. The impact of urban areas on this NEXUS will become much more important to natural resource management as sub-Saharan Africa becomes increasingly urbanized and close to half its population lives in urban areas. A greater understanding of urban-rural linkages will be needed to implement the Intermediate Results under this SO. Urban linkages to the SOs related to D&G, Informatics and Transition Out of Crisis are also very strong because of the importance that urban areas have in their successful implementation.

There has also been growing recognition within the Africa Bureau of the linkages between urban areas and other urban-based programs involving trade, population planning and HIV-AIDS

prevention. The cross-cutting, urban “synergism” of USAID’s SOs related to democracy, economic growth, agriculture and population will be increasingly important to their success.

At present, however, the means through which the “synergism” indicated in the Strategic Plan will be implemented remains to be defined. It is presumed that some form of “Urban Working Group” within the Office of Sustainable Development will be established to pursue and monitor the implementation of this objective. It can also be expected that units within the Sustainable Development Office will work to identify the implications of urbanization on the full range of Africa Bureau programs, to address opportunities for cross-sectoral synergies in key areas of the AFR/SD portfolio, and to establish and strengthen the basic relationship between urban approaches and other programs.

4.1.2 Global Bureau Strategy

USAID has been the United States’ primary agent in dealing with urbanization in developing countries throughout the world and in the sub-Saharan region. The former Office of Housing and Urban Programs, now the Global Bureau for Environment and Urban Programs, has accumulated almost 35 years of experience in dealing with housing and urban development problems in sub-Saharan Africa. Activities in these areas began in 1972 with the opening of Regional Housing and Urban Development Offices (RHUDOs) in Abidjan (Western Africa) and in Nairobi (Eastern Africa). Both of these offices have since closed although two Regional Urban Development Offices (RUDOs) remain in sub-Saharan Africa, one in Johannesburg and the other in Harare.

Early housing and urban related activities in Africa were linked to the Housing Guaranty Program. They included a number of sites and services and upgrading projects throughout the region with the most important programs located in Côte d’Ivoire and Kenya. All of these projects were designed to assist urban households with below median incomes. As African countries became less credit worthy and Housing Guaranty Loans were no longer available, RHUDO activities shifted to working directly with the USAID Missions. While continuing to work to their own strategic objectives, joint efforts were made to support decentralization by providing assistance to secondary cities, local government training, private sector development and the strengthening of rural-urban linkages. Joint studies and programs were also designed to complement other USAID sponsored activities such as agricultural marketing, better access to health care and improved education. The importance of complex interactions between various elements of programs designed to help the urban poor has been one of the major lessons learned from this experience.

Two programs of particular interest have been the Kenya Small Towns Shelter and Community Development Project and the Kenya Market Development Program. The Kenya Small Towns Shelter and Community Development Project provided shelter and urban infrastructure, along with essential technical assistance, to 26 small towns. The Kenya Market Development Program was initially funded by \$55 million from the Development Fund for Africa and by PL 480 resources and then later supported by a Housing Guaranty Loan. It is a good example of an

integrated approach taken by the Africa Bureau and the East African RUDO. The program focused on:

- increasing agricultural production and incomes by improving the efficiency of agricultural marketing and information systems;
- making urban areas more efficient and more attractive to private investment by targeting investment of feeder roads and infrastructure for market towns; and
- encouraging the decentralization, reform and improvement of local government revenue systems and management.

The Gore-Mbeki Commission is a multi-agency United States initiative that emphasizes new housing initiatives in South Africa as one of its components. It also testifies to the important impact of urbanization on USAID programs.

4.1.3 Mission Perspectives, Objectives and Programs

The majority of Mission SOs in the region have been based on the Africa Bureau's long-standing emphasis on rural development and aiding the rural poor. These current objectives do not fully reflect growing concerns about the urban environment and the importance of rural-urban linkages. Because of this situation, most Mission programs in the short-term future will not directly relate to the problems of the urban environment and urbanization.

Missions with programs that emphasize agricultural exports (e.g., Kenya, Uganda, Madagascar, Ghana, etc.) are aware, however, of the important rural-urban interactions that must successfully take place particularly in connection with the transformation of agricultural products to marketable commodities. In these cases, some Mission effort has already gone into dealing with environmental impacts as a result of this connection.

While several Missions are involved in improving local government management and finance, which can have a very positive impact on the urban environment and the provision of necessary infrastructure, only the Mission in South Africa specifically includes the urban environment as one of its SOs. This is no doubt due to the priorities of the South African Government and the presence of a very active RUDO working with the Mission. Neighborhood conditions in South Africa for the majority of the African population are particularly bad in light of the country's overall development. These substandard living conditions are largely the result of the long preceding period of apartheid. The current government is making a special effort to redress this situation and to improve the health and well-being of people living in these areas.

Poor and overcrowded housing conditions throughout sub-Saharan Africa are creating an urban environmental crisis that will deteriorate even further as rural migration to urban centers accelerates. The essential needs of the poor for employment, shelter, education, health and good governance do not change as they move from rural to urban areas, they only become more concentrated.

Overall, USAID continues to support policies that are aimed at protecting the urban environment and are consistent with Local Agenda 21 Programs established by African governments. USAID-funded studies have also increased the pool of information available to local policy makers on municipal management, finance, governance, public-private sector partnerships and the provision of urban infrastructure. These efforts are only part of the groundwork for more environmentally sound and sustainable city development.

4.1.4 Special USAID Initiatives

In addition to the regular Africa Bureau, Global Bureau and Mission activities, there are several special USAID initiatives for Africa that include programs in urban areas and can be beneficial to urbanization and environmental improvements.

Trade and Investment Initiative

As part of the President's Partnership for Economic Growth and Opportunity in Africa, announced in May 1997, USAID is directing special attention to help African countries design and implement policy reforms that will make their countries more attractive to international trade and investment. USAID's specific role is to help these countries increase their participation in world markets through greater openness to international trade and investment that can promote real economic progress and growth.

The USAID program includes four main components:

- short-term technical assistance to help African governments liberalize trade, promote exports and improve the environment for private sector investment (up to \$5 million annually for technical assistance);
- direct assistance and funding through USAID to help catalyze relationships between US and African firms through a variety of business associations and networks (up to \$1 million annually in assistance);
- provision of funds through USAID's African Economic Policy Reform program to finance budget problems that are associated with the introduction of aggressive, market-friendly reforms (up to \$10 million annually based on the availability of funds); and
- support to private sector and trade-related activities under USAID's Initiative for Africa (ISA) which includes technical assistance to the Secretariat and members of the 14-nation Southern Africa Development Community (SADC) (up to \$25 million annually).

The USAID's technical assistance activities under this new program will focus on establishing effective policies for both trade and investment.

In terms of trade policy, many African countries could benefit from assistance in developing and implementing programs that: simplify and improve access to imports (e.g., through the reform of tariffs, quotas, licensing, customs procedures and administration, rules of origin, product standards, and sanitary and phytosanitary regulations); relax or remove counter-productive export taxes and/or licensing procedures and; lead to the development of alternative tax and revenue measures that can be substituted for those on external trade.

In terms of investment policy, there is also a need for assistance in removing a wide range of barriers, bureaucratic procedures, and legal uncertainties that currently impede both domestic and foreign direct investment. A good example of this kind of activity is USAID's current assistance to business associations in Uganda and Mozambique. The purpose of this assistance is to help these associations conduct high-level dialogues with their governments in order to remove unnecessary obstacles and red tape that have been identified through a series of diagnostic surveys undertaken by USAID and the World Bank in 1995 and 1996.

A representative list of USAID efforts in trade and investment activities is provided in Annex D. All of these activities have been guided by two basic assumptions:

- policy reform in Africa must be African-led. Requests for USAID technical assistance must come from the governments, associations, and private stakeholders who understand the current conditions and obstacles to external trade and investment; and
- design and funding of project activities to meet local needs are characterized by USAID's decentralized organization and the importance and role of its 28 Missions across sub-Saharan Africa.

USAID Missions in sub-Saharan Africa have submitted a large number of preliminary proposals for policy reform and business partnership activities to USAID/Washington in September/October of 1997. AID/W is now reviewing these proposals to determine their eligibility for implementation under the Trade and Investment Initiative beginning early in 1998. As appropriate and within USAID's limited resources, either the local or regional Mission or AID/W may take responsibility for the design, negotiation, and contracting for selected activities.

Initiative for Southern Africa

The United States has been the major bilateral donor to the transport, agriculture and natural resource sectors in the southern Africa region for roughly the last two decades. This area includes: Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. USAID has also collaborated with other donors in implementing regional programs that have improved communications and the flow of information, infrastructure for railways and roads, food security, human resource development, community-based natural resource management, and agricultural research. The United States has disbursed approximately \$450 million since 1991 for these regional programs in the region covered by the Southern Africa Development Community (SADC).

The Initiative for Southern Africa (ISA) embodies USAID's current approach toward helping the southern African region achieve sustainable economic growth and democracies. The ISA program complements other bilateral programs by addressing development constraints that require a coordinated region wide response or that help build important links between countries in support of regional economic growth and/or democratic governance. The ISA has a particular focus on addressing development constraints related to infrastructure, small and medium-scale business development, civic society and democratic governance, and agriculture and natural resource management.

Current ISA programs officially operate under a Start-up Strategic Framework that includes provisional objectives, outcomes, targets and indicators. These objectives, targets and indicators will be refined as soon as USAID finalizes a long-term strategy for the southern Africa region. Based on information from the 1998 Congressional Presentation, the overall program supports the following objectives:

- SO1: Enhanced skills, knowledge base and capacity of individuals and organizations working to strengthen democratic processes and values in southern Africa (\$3.50 million);
- SO2: Increased indigenous business development and ownership (\$18.6 million);
- SO3: Establishment of key regional conditions that support sustainable increases in the productive use of agricultural and natural resources by smallholders (\$18.25 million);
- SO4: Increased efficiency, reliability, and competitiveness of infrastructure related to regional transport and telecommunications (\$6.65 million).

New Partnerships Initiative

USAID recently committed itself to organizational re-engineering and fundamental reform of its operating systems and processes. The core values guiding this re-engineering effort have been: customer focus; results orientation; teamwork and participation; and empowerment and accountability. The resulting comprehensive and wide-ranging changes in the way USAID does business are intended to produce more efficient and sustainable development results, and to allow the Agency greater flexibility in responding to rapidly changing, development-related circumstances.

USAID drafted the New Partnerships Initiative (NPI) in order to respond to this challenge. The start of this program was announced by Vice President Albert Gore on March 12, 1995 at the World Summit for Social Development.

The goal of NPI is to stimulate lasting economic, social and political development by building host country institutional capacity that will accelerate its "graduation" from U.S. government assistance. To do this, NPI embodies recent advances in development theory that recognize the critical economic and political roles played by civil society and values and, in particular, by voluntary associations. NPI will focus a significant amount of its resources on strengthening civil society and helping to restructure the relationships between these societies and the states that govern them.

Three sets of local institutions are the focus of NPI support: non-governmental organizations, competitive small businesses, and democratic local governments. The free functioning and coordination of these three institutions can significantly enhance the effectiveness of public and private sector development efforts and help reduce the distortions and inequities that have been found in the closed economies and political systems common to sub-Saharan Africa.

Phase I of NPI was completed in 1995 with the publication of a "Core Report" on its activities and success. Following review by the Agency's senior management, NPI will move from this initial period of design to a second 12 to 18 month learning period that will focus on activities in five to seven "Leading Edge" Missions. Identified "best practices" will be shared throughout the

Agency and with USAID's external partners. Steps will also be taken to ensure that management reforms that result from the NPI effort are rapidly embedded in Agency practice. Pending results of the performance review at the end of Phase II, Phase III will see an expanded application of the NPI conceptual framework and methodology throughout the Agency.

Greater Horn of Africa Initiative

The Greater Horn of Africa Initiative (GHAI) was begun in 1994 as a means to diminish the destructive impact of recurrent conflicts and crises on development efforts throughout the southern Africa region. The GHAI program allows development professionals and diplomatic staff to cooperate across agency and functional boundaries in order to promote conflict prevention and food security that will reduce the impacts of future crises. U.S. government activities undertaken as part of this program conform to five basic, operating principles that include: African ownership of the approaches; strategic coordination across bureaucratic boundaries; linkage of relief programs with those for development; regional approaches to regional problems; and promotion of stability through change.

The basic aim of GHAI is to change the way in which the US Government and its development partners operate. For example, conflict often emerges in Africa over resource issues, and USAID assistance in economic growth and environment can help reduce the stress related to these issues. Likewise, USAID assistance in good governance can help people address grievances without having to resort to violence. The refugee caseload in the region currently requires a massive humanitarian response in order to save lives and/or alleviate suffering. The principle of sustainable development, however, requires that the refugee population move from dependence to self-reliance through sensitive programs for resettlement and repatriation. Efforts to attack the root causes of these crisis, if successful in preventing future refugee flows, will be even more effective.

Consequently, GHAI has begun to systematically analyze and eliminate the barriers within USAID that have prevented development and relief professionals from working together in an optimum manner. USAID is also forging a stronger relationship with the Department of State to link more closely diplomacy and development. The US Government is also using the GHAI program to seek more effective partnerships with both international and regional organizations concerned by crisis and is building its own capacity to understand and analyze the sources of these conflicts. Efforts have included interagency training workshops in both Washington and the field, and the development of a manual on preventing and mitigating violent conflict.

Food Security Initiative

The overall goal of the Africa Food Security Initiative (FY98 \$30 million) is to reduce child malnutrition by increasing rural incomes. The three focus areas of the initiative are to increase food and agricultural production, improve market efficiency and access, and increase agricultural trade and investment. The AFSI will work in target countries such as Mali, Mozambique, Malawi, Uganda and Ethiopia, and will also support activities involved with regional food security. In addition, it will support Africa-related food security activities managed by the Global Bureau in areas of research and policy analysis.

Leland Initiative

The Leland Initiative was authorized in September 1995 in order to extend the benefits of global information networking to twenty or more African countries. Connection to the Internet and other Global Information Infrastructure (GII) are the technologies through which this objective is to be achieved. Active implementation of this initiative began in March 1996. It has been designed to promote an Internet "friendly" policy environment, to create a sustainable supply of Internet services and to grow a user base that is capable of effectively using the Internet to promote sustainable development in African countries and cities. The current initiation period has been both challenging and productive. Since its inception, the Leland Initiative has entered into detailed policy negotiations with twelve countries and has executed bilateral agreements with three of them. These agreements record the host government's commitment to:

- abandon traditional international telephone pricing in favor of cost-based affordable tariffs;
- allow free and open access to the information on the Internet; and
- set aside long-standing monopoly practices in favor of private sector Internet Service Providers (ISPs).

Through these efforts, the Leland Initiative has made affordable connectivity available for public and private sector development, and has identified the "fast track" USAID partners in each country that are ready to begin working with the program.

4.2 Major Multilateral Donors

Major multi-lateral donors active in the development of sub-Saharan cities include the World Bank and several United Nations' agencies and offices.

4.2.1 World Bank

The World Bank began its global approach to the problems of urbanization in 1972 as a response to the growing concern that cities in developing countries were becoming "harmful, inequitable and dangerous." The Bank's very first urban project was a sites and services project in Dakar, Senegal in 1972 and was quickly followed by similar projects in several other African cities. During the same period, the Bank also launched urban projects that integrated components, such as transport, infrastructure, municipal services and institutional reinforcement. Successive reorganizations in the Bank between 1983 and 1992 and detailed performance evaluations of previous projects led to a broader emphasis on sectoral policy reforms, devolution of real authority and power to local governments and privatization of urban services.

Environmental improvement has become one of the major themes of World Bank's urban projects. While urban projects implemented during the previous decades dealt with the urban environment without calling it as such, all but three of the urban projects approved in 1992, as well as most of those still under preparation, focused directly on the urban environment by promoting "clean" technologies, pollution control and the reinforcement of agencies involved in environmental management.

In addition, the World Bank has initiated two important networking activities to serve the donor community in dealing with urbanization. These two activities include the Network for Sustainable Development in Africa (NESDA), located in Abidjan; and the Environmental Information Systems (EIS) Secretariat, located in Pretoria. NESDA is a World Bank program aimed at preparing, executing and evaluating National Environmental Action Plans (NEAPs). Many of these NEAPs include an inventory of serious environmental problems related to urbanization. Greater attention to these urban environmental problems will be given in the preparation of Local Environmental Action Plans (LEAPs). Abidjan, Dakar and Harare are now pioneering the development of urban LEAPs, which will serve as examples for other countries.

A recent general review of urbanization issues in NEAPs has been carried out by the World Bank (see summary in Annex I) which concludes that much work still has to be done. However, the process of preparing national environmental strategies and action plans represents an opportunity for countries with increasingly scarce resources to identify priority environmental problems and formulate cost-effective solutions for reversing environmental degradation without slowing economic development. Given the importance of cities to economic development, the high costs of urban environmental degradation, and the large and ever increasing numbers of people affected, confronting urban environmental problems should emerge as a priority in a greater number of countries. Notwithstanding the deficiencies of earlier NEAPs in addressing urban environmental problems, the experience gained in their preparation and implementation can provide important lessons for improving the next generation of national environmental strategies, refinements or updates of earlier NEAPs and country economic strategies.

4.2.2 United Nations' Agencies

The UN has been involved over many years in a wide range of activities related to urbanization in Africa. The most prominent activities include: the Environmental Management Network/Urban Management Program (EMP/UMP) located in Abidjan and managed by United Nations Centre for Human Settlements (UNCHS)/World Bank (WB)/United Nations Development Program (UNDP); LIFE (Local Initiating Facility for Urban Environment) managed by UNDP; the Urban Environmental Forum (UEF) in Nairobi, (operated by UNCHS and UNEP); IAGU (Institut Africain de Gestion Urbaine) in Dakar; the International Council for Local Environmental Initiatives (ICLEI) in Toronto, which is involved in the implementation of Agenda 21; and the Healthy Cities Program (HCP) operated by the WHO in Geneva. It should also be noted that both the UN Center for Housing and Settlements (UNCHS-Habitat) and the UN Environmental Program (UNEP) are located in Nairobi, Kenya.

The most important UN program actively involved in urbanization is the Sustainable Cities Program (SCP) which is jointly run by UNCHS and UNEP. This program has been in operation since 1990 and currently has activities underway in some 15 countries and 23 cities in Africa. The Sustainable Cities Program provides a framework for linking local actions and innovations to activities at the national, regional and global levels. It provides an overall methodology that participating cities can follow in environmental planning and management (EPM). Lessons learned through individual city experiences are then shared, analyzed, generalized and discussed

with other cities in the program. The program also provides a vehicle for inter-agency cooperation.

The Sustainable Cities Program organizes city-related information and its exchange at several levels and in different ways. These efforts include: workshops, direct experience at the project level, study tours and information exchange, etc. The Sustainable Cities Program has also developed a set of common, methodological "tools" that can be used by partner cities to improve their environmental management. These tools include: City Environmental Profiles, risk assessments, GIS applications, and Environmental Planning and Management Information Source Book. The continual updating and improvement of the EPM sourcebook provides an effective summary of some of the best practices in urban environmental management and a means to facilitate their modification and replication to serve other cities in mobilizing and concentrating their resources for environmental improvement and sustainable development.

The Sustainable Cities Program launched the Urban Environmental Forum (UHF) in 1995 as an additional response to needs identified at Habitat II. This program provides an annual forum for discussions, develops and institutionalizes a full-scale process of information sharing (including Web sites, access to electronic communication, local language videos, etc.) and continues and deepens the documentation process based on the best-practice, case study approach. Both the Sustainable Cities Program and the Urban Environmental Forum are dedicated to the process of local capacity building. They do not provide any significant financial resources for capital improvements.

4.2.3 Healthy Cities Program

The Healthy Cities Program (HCP) has been initiated by the World Health Organization to reinforce local capacity for the management of environmental health. It is a worldwide program that has been functioning well in Europe and North America and has initiated a limited number of activities in Africa. The Healthy Cities Program has developed a group of underlying principles, methodological tools and indicators for the evaluation of environmental health that could be effectively applied to sub-Saharan Africa and used as models for future work.

4.3 Joint International Efforts

A growing number of joint international efforts have been established in the area of environmental management and sustainable cities. Many of these efforts have been the results of recent UN conferences on the environment, shelter and urban development.

4.3.1 Agenda 21

Agenda 21 is the United Nation's global action plan for socially, economically and environmentally sustainable development. It was endorsed in June 1992 at the United Nations Conference on Environment and Development, commonly known as the Earth Summit. The purpose of Agenda 21 is to establish policies and programs that will achieve a balance between

environmental changes brought about by resource consumption, pollution and population growth and the natural resource base necessary for sustainable development

Agenda 21 recognizes that unless sustainable development is placed at the very top of international development priorities, global environmental degradation will continue to marginalize the poor, damage human health, slow growth in world food production and hinder economic progress. Developing countries that are already suffering the most will be the hardest hit. Significantly, Agenda 21 has targeted cities as key areas for action in the efforts to achieve sustainable development. African cities are centers of concentrated consumption and waste production that will grow significantly over the coming years. The need to orient the future of these cities towards sustainable development, and to reduce their negative ecological footprint or impact on available resources is receiving greater and greater global attention.

Agenda 21 includes six major subject areas that concern the:

- **quality of life on earth** with particular emphasis on developing strategies to alleviate poverty, change consumption patterns, improve health standards and most of all, reduce population growth;
- **efficient use of the earth's materials** in terms of both renewable and nonrenewable resources by decentralizing policies, putting control in the hands of local authorities, encouraging public participation and identifying ecosystems as units to be uniformly managed;
- **protection of our global commons** such as the atmosphere and oceans that essentially belong to everyone;
- **management of human settlements** to include the:
 - use of local materials and indigenous building sources;
 - incentives to promote the continuation of traditional techniques that employ local and regional resources and self-help strategies;
 - recognition of the toll that natural disasters take on developing countries due to unregulated construction;
 - regulation of energy-efficient design principles;
 - discouragement of construction in ecologically inappropriate areas;
 - use of labor rather than energy intensive construction techniques;
 - international information exchange on all aspects of construction related to the environment;
 - exploration of methods to encourage and facilitate the recycling and reuse of building materials;
 - financial penalties to discourage the use of materials that damage the environment;
 - decentralization of the construction industry;
 - use of clean technologies

- consideration of energy harvesting, waste management and reuse, food production and water distribution as part of the shelter environment; and
 - reduction of environmental degradation and resource depletion by the building industry.
-
- **reduction of chemicals and improvements in waste management, and**
 - **achievement of sustainable economic growth.**

Agenda 21 includes a special mandate for governments and cities to establish their own Local Agenda 21s and to use them as guides to reshape local programs and policies. Most local authorities in participating countries were to have undertaken a consultative process with their populations and achieved community consensus on the basic approach and content of their Local Agenda 21 by 1996. The mandate also requires local authorities to interact with civic, community, non-governmental, business and industrial organizations in preparing and implementing strategies for sustainable development. Consultation and consensus building are two of the key activities in this process.

Many of the issues outlined in these Agenda 21s, such as land reform, decentralization, environmental reparations and changes in value systems are fraught with political overtones that involve nothing less than revolutionary change in current government systems.

4.3.2 MELISSA

MELISSA is a joint initiative of the World Bank and the European Union (EU). It also receives funding from other donors (e.g., Germany, Sweden and Norway) for specific interventions that are carried out by the program. MELISSA is a direct response by the World Bank and EU to the expressed concerns of African participants at a Workshop on Environmental Problems Related to Urbanization in Africa, held in Dakar, Senegal in June 1995. Its basic aim is to help empower local authorities and communities in planning and managing the conditions of their neighborhoods and environment by:

- supporting the development of local resources and environmental planning through a network for the exchange of information and experience using modern methods of communication;
- mobilizing and developing African expertise;
- learning through the implementation of pilot projects; and
- tapping investment opportunities and coordinating areas of management which advance decentralization.

MELISSA also assists local governments in the preparation, implementation and monitoring of LEAPs in sub-Saharan Africa

MELISSA concentrates its activities on sub-Saharan Africa, and works in close cooperation with other programs. It is very closely linked to the UN Sustainable Cities Program. MELISSA has access to technical assistance through donors, as well as through its close contact with regional

African organizations (e.g., SADC, CILSS and IGAD), and other agencies and institutions (e.g., UNEP/GRID, IIED and WRI). The operational unit of MELISSA is housed in the CSIR offices in Pretoria, which provides immediate access to a wide pool of resources. MELISSA shares their office with the EIS Secretariat which can provide assistance in developing contacts and achieving access to environmental information systems in many African countries.

MELISSA acts as a network of existing networks. It has been designed to synergize the relationship between organizations, institutions, programs and projects related to environmental management in Africa. The program will help coordinate activities by developing working arrangements between initiatives with common interest, in particular Bank related programs e.g., NESDA, Multi-Donor Secretariat (MDS), EIS in sub-Saharan Africa, Metropolitan Environmental Improvement Program (MEIP), etc.

4.3.3 Urban Management Program

The Urban Management Program (UMP) is an initiative of the United Nations Development Program (UNDP) that has been implemented in collaboration with UNCHS and the World Bank. After an initial stage of research and development from 1986 to 1991, the program began working with developing countries to build local capacity to address problems in five substantive areas: municipal finance and administration, infrastructure, land management, urban environment and poverty reduction. Three processes were developed to ensure this building of capacity: city and country consultations through which national and local authorities, private sector, community representatives and other participants in urban development were brought together to discuss problems and propose reasoned solutions; regional programs and technical cooperation through regional UMP offices to ensure a sustained and effective program; and global support and synthesis through offices located in Nairobi and Washington DC. An important output of Phase 1 also involved the publication and dissemination of an important series of documents on urban issues and potential solutions.

Phase 2 of the UMP Program, carried out between 1992 and 1996, continued the focus on capacity building at both the country and regional levels and with facilitating national and municipal dialogues on policy and program options. Its regional offices continued to address the programs five major concerns through city and country consultations and through technical cooperation.

The urban environmental management component of this activity was initiated in 1990 to support the: preparation of urban environmental strategies in selected cities; capacity building for urban environmental management at national, regional and local government levels; and documentation of "best practices" approaches. A major effort of the UMP has been the development and institutionalization of city-specific approaches for urban environmental planning and management.

4.3.4 Regional Groups for Water and Sanitation in West and East Africa

This program is financed by the UNDP and executed by the World Bank. It has three main objectives:

- development of water and sanitation management;
- promotion of investment in water and sanitation; and
- dissemination of knowledge and best practice for water and sanitation management.

4.3.5 Municipal Development Program

The Municipal Development Program (MDP) is supported by the Economic Development Institute of the World Bank (EDI) and the European Union (EU). Its principal aim is to help reinforce the powers of local authorities and organizations.

4.3.6 Environmental Information Systems Secretariat

The EIS is a multi-donor initiative that aims to produce, disseminate and evaluate environmental information to help with better decision making and the better use of natural resources. Like MELISSA, the program office is located in the CSIR office in Pretoria, South Africa.

Chapter 5

Key Areas of Concern and Opportunity

Initial discussions with AFR/SD Environment Staff indicated six major areas of concern and opportunity to be considered in this study: local government and community level environmental action; urban-rural linkages; low-income neighborhoods and housing; energy-climate-health relationship; networking information in urban management; and mitigation of “brown” pollution through land use planning. Certain aspects of these topics have already been addressed in other sections of this report. This chapter briefly summarizes some of the more important points about these topics.

5.1 Local Government and Community Level Environmental Action

This area of concern includes the roles of both local government and community participation in attempting to address urban environmental issues and to achieve sustainable development. Urban local governance and the active participation by both local government and the community are essential ingredients in these attempts. In addition, a viable local system of governance that allows for meaningful community participation is vital for the organization and delivery of environmental services. A strong local system of governance also puts pressure on central government to act responsively and responsibly to the real needs of their citizens.

5.1.1 Role of Local Government

Decentralization is generally regarded as having a positive effect. Simply widening participation at different levels of government, however, will not automatically strengthen local autonomy nor will it render local performance in managing the urban environment more effective or accountable. The devolution of governance responsibilities, authority and capacity to non-central government institutions, including local governments, private sector and civil society is not a new idea in Africa. It has been official government policy in many countries for quite some time. Not much progress has been made in its application, however, due to the lack of political will within central governments and the reluctance of line ministries to relinquish even small amounts of their power. Most decentralization programs, therefore, have focused on “strengthening” local-level public administration while keeping key responsibilities and rights within the central government and its agencies. Even less attention has been given to strengthening and/or empowering private sector actors and communities.

As a result, most local governments in sub-Saharan Africa are little more than extensions of central governments. They are often dependent on block grants from central governments which leaves them with very limited powers and/or resources to respond to pressing local problems, including those related to the urban environment. Multiple levels of government at the local level with overlapping mandates and powers have also led to inappropriate delegations of responsibility and numerous mismatches between responsibility and authority needed to perform necessary tasks.

What has been missing from this process until now has been a strong civil society and an active, formal private sector that can advocate for more transparency, accountability, and participation in government decision making. Recently, the situation has begun to change. There is now growing public awareness that formal governance arrangements alone, whether through municipalities or the metropolitan framework, cannot meet the needs of protecting and/or enhancing the human and natural resource bases of cities. While local government must play an active role of “promoter” in responding to urban challenges, formulating projects and guiding their implementation, there is an equally important need for smaller and more efficient systems of good governance that can channel resources and regulate actions of both civil society and the private sector as a means to achieve social equity and sustainable development. Joint planning and cooperation between local government and these community-based organization requires political initiative, legal and financial innovation and consensus among citizens.

5.1.2 Role of Community Participation

Nongovernmental and community-based organizations can help transform people’s perceptions about their own responsibility in achieving sustainable development. They offer overwhelming evidence that people, when left to their own devices will instinctively engage community action to resolve neighborhood problems and impose considerable self-regulation to achieve the common good.

They show that even the most informal, disaggregated community-based arrangements can effectively serve their members very well. Family and kinship networks in most African cities remain very strong, especially those involving poor urban households that have been reinforced by the lack of security they have experienced in terms of access to basic shelter and urban services. Even very low income communities have had considerable success in mobilizing for specific purposes such as garbage collection and removal, maintenance of drains and footpaths etc.

In many city neighborhoods, the most viable environmental improvement strategy is to promote the development of community based organizations and to involve them in the management process. Principles that derive from traditional institutions based on kinship can be adapted to operate effectively in the heterogeneous setting of the modernized city. Experience has shown that organized systems of land management, capital mobilization, maintenance of law and order, infrastructure investment, stocking and disposal of merchandise and even welfare services can be provided with relative effectiveness based on principles of trust and generalized reciprocity within a market context.

Experience has also shown that, even using very limited resources, the urban poor can get involved in initiatives and actions to reverse the current trends of environmental degradation. The closeness and availability of people is one advantage in urban areas that can be used to promote community participation. The work of youth clubs, citizen groups, residents’ associations and many other city-based volunteer associations, often referred to as the “social economy,” not only can get things done but can also create the necessary relationships and organization to allow the

urban poor to work together on local problems. "Thinking globally, but acting locally" in this manner is the theme of Agenda 21 and the basis for grassroots improvements in the urban environment.

5.2 Urban-Rural Linkages

The concept of sustainable development has evolved within the framework of three broad perspectives: ecological, economic and social sustainability. These three perspectives can also be used to categorize the major linkages that exist between rural and urban areas.

Although rather detailed sets of urban-rural linkages can be identified for specific areas and places, some of the more important linkages that are common to all sub-Saharan Africa can be described as follows.

5.2.1 Ecological Linkages

Linkages related to ecological sustainability refer to ecosystems and the maintenance of ecosystem integrity. Policies for land use and urban development must acknowledge surrounding natural ecosystems and the need to maintain their essential cycles and life-support capabilities.

Cycle of natural resources and urban wastes

Cities are man-made ecosystems that consume natural resources (inputs) and create wastes (outputs). The systems used to regulate this ecological process are critical to the sustainability of both urban and rural environments. Given that people are an essential part of the natural ecosystem and that ecosystems change regardless of human activity, it is important to ensure that human activities relate to natural and man-made ecosystems in the least destructive way, and within the inherent limitations of these systems. Linkages to natural resources require a sustainable balance to be established between the inputs (as measured by the quantity of energy and materials used in the urban ecosystem, availability of energy and material resources, rates of depletion and ecosystem consequences of each input used), outputs (as measured by the permissible quantities of output discharged, routes taken by various outputs after discharge and their ecosystem consequences) and the internal systems that relate these inputs and outputs.

Regional and global resource base

As urbanization and the process of globalization continue, African cities will dramatically expand the complexity and importance of their linkages to regional and global resources that extend well beyond their traditional areas of influence. They will require significantly greater quantities and forms of natural resources to meet their needs. This is a matter of particular importance to natural resource planning. Greater attention needs to be paid to the implications of these wider linkages and to the consideration they should be given in making essential choices. Such an approach would help enlighten local understanding of the green agenda.

Deforestation

Subsistence agriculture, logging and rural land use are among the major causes of deforestation and the loss of biodiversity. At the same time, demands for fuel and building materials by African cities also have very significant impacts on both the concentration and rate of deforestation. Roughly 70-90 percent of household fuel requirements in African cities are met by charcoal production and/or wood gathered from forested areas. The demand for wood-based building materials is also increasing as a result of both formal and informal construction. The business economics of bringing the necessary large quantities of wood to urban markets has sometimes contributed to more concentrated and intense areas of deforestation that lead to even greater and more rapid degradation of soil, water, forests and biodiversity around urban centers. Wooded areas around city peripheries, where the transformation from rural to urban activities is the most intense, are the most susceptible to rapid deforestation. Replanting programs in peri-urban communities as well as privately managed wood lots for fuelwood and building materials can help offset some of this loss. In fact, if the enabling conditions for community-based management of natural woodlands and private woodstocks are in place and empower local communities to benefit from the harvesting and sale of these resources to supply urban markets, it is possible to capitalize on the growth in demand for fuelwood to stimulate more intensive use and sustainable management of forest resources.⁷

Urban and Rural Access to Water

The current state of water resources in sub-Saharan Africa requires very close and immediate attention. Water is rapidly becoming a critical strategic commodity for the high population concentrations living in urban areas, as well as for agriculture and the maintenance of natural systems. As the region's population more than doubles over the next 20 years, there will be a growing percentage of the populations in both urban and rural areas that will not have adequate access to safe, usable water.

The growing shortage of water will only be part of the problem in urban areas. Water that is used will also be increasingly contaminated due to industrial pollution, poor sanitation and the discharge of untreated wastewater into surface and ground waters. The quality of this water will have a major impact on the generation of disease and deterioration of health in Africa.

The growing shortage of water in rural areas will reduce possibilities to intensify and/or expand agricultural production in response to the needs of continuing population growth. It will have a particularly detrimental effect on the irrigated production of food for urban consumption.

At least five areas of concern clearly need to be addressed in providing safe and adequate water in both rural and urban areas. These are:

⁷ See, for example, the case of the rapid growth of rural wood markets in Niger to supply fuelwood for Niamey.

- ensuring household water security through the efficient and equitable provision of safe drinking water and sanitation;
- maintaining food security for both urban and rural households through the efficient use of water resources and application of appropriate agricultural technology in both rainfed and irrigated areas;
- ensuring water quality and human health by reducing water pollution and degradation;
- protecting wetlands and catchment areas by involving all stakeholders in the process; and
- resolving and preventing conflicts between and within African countries as well as between people and economic sectors competing for scarce water resources.

5.2.2 Economic Linkages

History has shown a strong linkage between rising urbanization and economic development in virtually every country. Linkages related to economic sustainability refer to market-based approaches that increase rather than forego growth and consumption. People generally benefit when the role of market forces is prominent in development decision making and when local markets perform as they should. Human settlements are sustainable only if agriculture and the rest of the economic and social system are sustainable as well.

Economic activity

Cities serve as transition points between rural, regional and national economic activity. They provide markets for rural products and the necessary infrastructure to incorporate these products into the cash economy. They also provide the necessary processing and distribution centers essential for both exports and domestically consumed products. Road networks and transport channels are the visible manifestations of these linkages. Initiatives aimed at improving livelihoods in rural areas often fail to achieve their full potential because they do not adequately consider the need for these connections to urban areas or for the infrastructure and support services in market towns and other urban centers that will make these linkages work. Desired results in African agricultural production can only be sustained by a transition from “aid to trade” based on more stable farming practices and a well-functioning hierarchy of cities and markets. Urban demand for food is a powerful motivating force for change in rural areas and one that can spur changes in rural commodity prices, technologies and efficiency over the coming decades. Evidence has shown that urbanization and the improvement of infrastructure are more likely to improve agricultural productivity than any other factors.

Local markets

The private sector in many African countries is undergoing a transformation that leads to a much higher proportion of revenue coming from marketed goods than from subsistence production. Much of this change, as well as increases in agricultural productivity, have been the result of urbanization. Urban cash demands for rural products are likely to grow many times over with the continuation of present urbanization trends. This argues for expanding downstream linkages with growing urban markets along with support for sustainable land use relationships within the surrounding watersheds. It also argues in favor of urban development based on the premise that urban markets go hand in hand with rural development.

Urban market centers are particularly important because they facilitate the enhancement of rural incomes by providing: distribution systems for agricultural products sent to major urban areas for consumption processing or export; distribution systems for manufactured consumer goods and agricultural inputs from cities to rural areas; urban social and commercial services; opportunities for rural industrialization in terms of small-scale and resource-based industries related to agriculture and extractive activity; and urban jobs for surplus rural population.

Household survival strategies

Rural and urban communities in Africa are inextricably linked through the day-to-day activities of their inhabitants. Many African households need to have family workers in both the rural and urban areas in order to survive. There is a substantial movement of village level products (both agricultural and manufactured) to the cities and remittances and processed goods back to the rural areas through these very important household linkages. Strong "village connections" are likely to continue through this generation but then gradually fade as successive generations develop more urban identities and stronger ties to the cities in which they live.

Employment generation

It is vital to expand urban employment opportunities in order to: support productive, settled agriculture; provide jobs for surplus rural labor; and absorb the natural increases in the urban population. The importance of off-farm employment opportunities will increase as population and agricultural productivity also increase.

"L'exode rural" in certain Francophone countries is more than just an economic activity. It is a process through which cities in the region absorb part of the growing population and economic pressure in rural areas, by providing salaried employment to rural migrants during the agricultural off-seasons. This type of employment is particularly attractive to young men who develop mixed, urban-rural lifestyles. They become as much urban dwellers visiting the village as villagers seasonally migrating to the city. The down-side of this type of arrangement is that these young men no longer have a real stake in either area while remaining very susceptible to economic downturns in both.

5.2.3 Social Linkages

Linkages related to social sustainability refer to the ability of people to take the collective actions that promote fair access to the benefits of human progress. The basic objective is to create spatial patterns and living environments in which all individuals and groups are treated fairly and have equal opportunity. While this may seem to be unrealistic and ideal, there can be no success in conserving natural habitats if human habitats are left unattended to crumble and die through poverty, joblessness and unhealthy living conditions.

Social-cultural formation

Cities provide the prism through which world culture, information, education and democracy come to rural areas. They play an important role in shaping local patterns of consumption, establishing attitudes about the desired quality of life and generating respect for the environment.

They also lower fertility by providing better access to city-based health and educational services for both urban and rural inhabitants.

USAID programs

All of USAID's four major program areas (health and population, economic growth, democracy and governance, and the environment) require the institutional and organizational capacities found in cities for their successful implementation. While USAID has many programs that take place in urban areas, it has relatively few programs that are viewed through the prism of urbanization, that proceed with a common understanding of the urbanization process at work, and that are planned and coordinated at both the central and Mission levels within a framework which ascribes importance to the lessons learned. Linkages between programs, e.g., municipal finance and management and good governance, infrastructure financing and emerging markets, micro-finance and shelter, child survival and provision of water supply, need to be made more explicit, strengthened, and reflected in USAID programs. The urban sector has important contributions to make in human resource development and training, health and infrastructure, decentralization and governance, family planning and the treatment of HIV/AIDS that can increase the impacts of USAID programs.

5.3 Low-Income Neighborhoods and Housing

5.3.1 Neighborhood Environment and Improvement

African cities and towns are growing much faster than land can be prepared and serviced to accommodate this growth. As a result, unregulated settlements dominate many African cities and accommodate as much as 70 percent of their population. These settlements are characterized by high population densities, densely built up areas, poor water supply, virtually no paved roads, inadequate sanitation, lack of open space and lack of community facilities and services. Many of these areas have also been built on land that was considered inappropriate for development. The lack of formal control over the development of these areas has enabled vibrant, mixed-use neighborhoods to be developed that meet the basic survival needs of a very poor population. Nevertheless, turning these very substandard areas into full-fledged city neighborhoods remains a major challenge. Deteriorating economic conditions have meant that physical conditions within most of these areas have gotten worse rather than better over the last several years.

Multi- and bi-lateral donors, including USAID, devoted a great deal of effort and resources in the 1970s and 1980s toward improving these types of neighborhoods. The resulting "upgrading" projects were originally implemented through special agencies, but were increasingly taken over by local authorities and community groups. Land tenure and cost recovery problems proved to be the most difficult to overcome. The results of these efforts led to greater emphasis on the establishment of local "enabling environments" that included housing finance, municipal management and finance, private sector provision of infrastructure and services, land registration and other sectoral policies and procedures that were aimed at helping people to improve their own shelter situation. While many of the important policies and programs were put in place, the

general deterioration of the economic situation effectively delayed the positive fruition of these efforts.

5.3.2 Housing Environment and Improvement

Housing is the single most expensive purchase by the majority of households and one of their most valuable assets. Formal home ownership creates an important economic asset that can be used as collateral to obtain a significant amount of credit. Having a home is also essential to the development of additional income generating activities that include women-based enterprises, cottage industries, shops, rental units etc. Most housing units are built on an incremental, pay-as-you-go basis by craftsmen and/or small contractors who are closely managed by the actual house owner. Serviced land on which to build the house is often the most difficult component of this process to obtain.

A major concern in the pursuit of sustainable urban development concerns the type of building materials used in the construction of low and moderate income housing. Agenda 21, for example, points out the importance of using renewable building materials that require little energy to produce and perform in an energy efficient manner. There seems to be little sense, for example, in using cement, which requires a very high energy and polluting process to make, simply to produce poorly made cement blocks to support very lightweight roofs that could be supported by other means. Little or no climatic benefit is also to be gained from the use of these cement block walls.

5.4 Energy Use-Climate-Health

All around the world there is growing concern about global warming or climate change, ozone layer depletion and acid rain, all of which originate from city-based activities. While the current contributions of African cities to global or even regional climate changes remain very limited, the layouts, physical characteristics and activities of these cities have important impacts on their own energy use, micro-climates and health of their inhabitants. Climate considerations need to be included in city planning, building design and the choice of building materials, and in energy and transportation development planning.

5.4.1 Influence of African Cities on Local Climates

As sub-Saharan cities continue to grow very rapidly, their impact on the surrounding micro-climate will increase. The visible changes in scenery from a landscape of plants and soil to one of bricks and concrete are often accompanied by perceptible changes in the local climate. There is a definite need to know more about the causes of these changes so that cities can be planned and designed to provide the most energy efficient and comfortable micro-climate for their inhabitants. A fundamental link exists between a city's micro-climate and the amount of energy it consumes and expels. More efficient and environmentally sound ways to manipulate city climates are required than simply relying on energy intensive, pollution producing mechanical systems.

Even without major problems related to air pollution, African cities still have the capacity to induce various micro-climates based on the composition of their built-up surfaces and properties (through albedo, heat capacity and moisture content), and on the relationships of their structures (through changes in air flow due to streets and tall buildings). The amount of heat released by human activities in the larger cities contributes to the modification of thermal balance within the atmospheric boundary layer and generates what has been called the “urban heat island effect.” This effect comes from heat that is stored in bricks and concrete and trapped between close-packed buildings. It makes cities warmer than their surrounding areas and can cause considerable discomfort to residents living in cities with hot or tropical climates. Increased demand for energy to cool buildings leads to greater air pollution and smog.

A systematic analysis of different types of cities in sub-Saharan Africa would explain some of the relationships among energy demand, micro-climates, health and urban design. Some very basic considerations are that:

- Sun protection is essential in areas with hot, dry climates and can be achieved through the use of shade and pale surfaces to reflect the sun’s radiation. The glare from this reflected heat can be reduced by shading from eaves, verandas, vegetation and, most of all, from trees, based on the assumption that water supplies are adequate. Trees will also filter blowing dust from the air.
- Air movement is essential in areas with warm, humid climates and can be achieved by orienting streets and buildings to catch the predominant breezes, mixing building heights to promote ventilation, making sure that vegetation does not impede air movement and providing permeable surfaces to reduce the rapid runoff of urban storm water during periods of heavy rain.
- Intelligent orientation of buildings is essential in temperate climates which have periods of both hot and cold temperatures. Streets and buildings need to be carefully oriented in order to block the winter wind while allowing the cool summer breezes to pass through the city. There is a need for maximum wind protection (tree shelter belts, closely spaced buildings of constant height, main streets perpendicular to the prevailing wind etc.) in even colder areas or on exposed sites.

While these climate considerations related to the design and planning of African cities seem inconsequential in terms of global climate change, they will have very important cumulative consequences on future energy requirements and the health of a significant part of the population as these cities substantially grow.

5.4.2 Influence of African Cities on Regional and Global Climates

The potential influence of African cities on regional and global climates also needs to be more clearly monitored and studied. While today’s African cities make only a small contribution to global air pollution and climate change, their rapidly growing size and numbers will lead to much greater cumulative impacts on the region’s climate over the next several decades. In particular, the impact of very large African cities (e.g., between 5 and 10 million inhabitants) on the atmosphere and regional ecosystems will become much more important as these cities

physically expand and develop greater economic and industrial activity. Better information and understanding is needed in order to:

- optimize energy-efficient designs at the urban and building scale;
- mitigate the urban heat-island effect through the effective distribution of vegetation, layout of city blocks, size and clustering of buildings, and properties of surface materials;
- predict the climatic responses to alternative urban planning and design solutions; and
- coordinate strategies that ensure a healthy and ecological environment.

Significant changes in temperatures and climate could have potentially devastating effects, for example, on the amount and quality of rainfall available for agricultural production. The same disruption in rainfall patterns could also reduce the availability of water for cities. Warmer weather would likely increase the frequency of violent storms and the danger of flooding in low-lying areas. Any significant shifts in climatic zones might also be too difficult for forests and ecosystems to adapt.

The impact of emissions from green house gases (carbon dioxide, methane, chlorofluorocarbons and nitrous oxide) are likely to increase dramatically as African cities expand and become more industrialized. Air pollution due to poor planning, poorly maintained vehicles and unleaded gasoline is already an environmental problem in many African cities.

African cities can take a number of measures that will help curtail the potential negative impacts of this situation. In addition to controls on industries and automobiles, they might include: more mixed land uses to reduce daily travel needs; tree-plantings along major streets to absorb carbon dioxide emissions; restrictions on the use of charcoal and wood for cooking; use of low energy, renewable building materials; and proper orientation of streets and buildings.

Cleaning up the outputs of energy use at home, on the road and at work will have a dramatic positive impact on the health of urban residents.

5.5 Information and Networking as Tools in Urban Management

The sustainable development of cities requires a sound and intimate knowledge of the natural and human ecosystems on which they are based. Fortunately, obtaining and sharing the basic information necessary to develop this knowledge are becoming easier. Advances in information technologies make it possible to amass, assess and simultaneously process vast amounts of data. A wide range of intuitive and scientific work is also being done in terms of defining the methodologies and types of data that can be used most effectively. Considerable capability and experience exists at both the local and international levels which can be used to blend theory with practice. While all the necessary pieces are beginning to fall in place, considerable inertia remains in trying to initiate such a multi-partner processes.

Participants at the World Bank Workshop on Environmental Problems in Africa, held in Dakar Senegal between June 26-30, 1995, indicated that problems remaining to be addressed included the:

- lack of regular and/or systematic exchanges of knowledge and experiences between African cities and in particular between Anglophone and Francophone countries;
- lack of adequate connections between various partners working with African cities in undertaking a broad range of urban environmental interventions; and
- lack of opportunities for African cities to work and learn directly from one another through more systematic means than simply ad hoc exchanges that occur mainly through occasional international meetings, training courses and infrequent twinning arrangements.

Several bilateral and multilateral donors have begun in-depth analyses of the urban and environmental situation in Africa. Numerous practical examples of what can be done in environmental planning and management for African cities already exist.

In addition, AFR/SD has launched an active networking program ("AfricaLink") that provides a ready-to-use resource in helping in-country clients link up with partners in other African cities. AfricaLink, as one component of the Leland Initiative, provides support to USAID partner networks in Africa seeking access to the Internet as a way to facilitate the exchange of information among their members. Environmental, agricultural, and natural resource management networks have been specifically targeted for assistance.

AfricaLink's main purpose is to improve the flow of information among existing USAID partner networks in Africa. This is being achieved through the use of telematics (computers for communication). The program encourages and promotes the use of local Internet service providers, especially in the private sector, that can provide reliable, high quality, and sustainable access to electronic networks at a reasonable price.

AfricaLink works through existing network leadership and information managers. It assists them in taking advantage of new technologies, while empowering them to manage information effectively with their network members. AfricaLink is described in detail on the World Wide Web at: <http://www.info.usaid.gov/lnk>.

A close connection has also been established between MELISSA, which has a strong focus on urban development, and the Environment Information Systems Secretariat, which is a general information networking effort. Both of these organizations are located in the CSIR offices in Pretoria and have strong links with the NESDA in Abidjan.

The beginnings of a productive, low-cost arrangement for information sharing are already in place, since AFR/SD invests in both NESDA and AfricaLink. Similar activities by other donors (especially the World Bank and European Union) could be added to the system to make it even more effective.

To the extent that SD/AFR deals with education at various levels, environmental education should be included as one of the major subject matters to be presented to students at all levels. The Mazingera Institute in Nairobi is already one local institution making environmental issues

intelligible to the local population. This education would focus on low-tech, ecological African solutions to existing environmental problems in urban and rural areas.

5.6 Mitigating Brown Pollution through Land Use Planning

Effective land use planning for sustainable cities requires a good local knowledge of natural and urban ecosystems within and around the city. It requires broad-based, informed and committed community support to provide the necessary visioning and staying power that will produce development patterns that best respect natural systems and respond to human activity. The inherent links between land use choices, natural environments and the future quality of life are all key decision-making considerations in determining environmentally sound and sustainable land use patterns.

Communities must fully understand their makeup, strengths, limitations and options in order to determine the most appropriate land use strategy to employ. The more that people understand the importance that land use issues have on the ways in which they live, the more they will be willing to support and comply with community decisions. In previous urban societies a “pattern language” often developed that established the basic principles for local architecture and the built environment. Everyone knew the contents and reasoning behind this language so that it effectively became ingrained into society. Urban development in Africa requires the establishment of a similar, environmental pattern language through which environmental awareness becomes commonplace. While growth and change are inevitable, ugliness and environmental degradation are not. As long as the cumulative effects of land use decisions continue to be ignored, environmental policy will only be marginally successful in achieving its goals

At least four areas come to mind through which environmentally sound land use planning can make a positive contribution to the development of sustainable cities. These include the: incorporation of mixed land uses; encouragement of urban farming; regeneration of vacant land and green infrastructure; and promotion of industrial use of waste.

Incorporation of mixed land uses

Applications of western-style, regulatory processes to land development in African cities have been too narrowly focused, unevenly applied and generally based on inadequate information about the natural systems within these cities. While zoning was originally invented to protect city residents from the evils of the Industrial Revolution, it is now generally used to preserve the interests and property values of upper class residents against potentially detrimental effects of mixed uses. It has little application to low-income neighborhoods in African cities in which a high proportion of mixed-use land already exists. These multi-use patterns of urban development offer low and moderate income residents greater choice in their type of housing, better access and convenience to employment and services, less segregation by income and class, and a greater sense of community at a lower cost for infrastructure. Many of the areas have developed incrementally and against the prescriptions of current planning regulations. Greater attention needs to be given to the potential of legally developing mixed-use areas as a means to

incorporate compatible residential, commercial, small-scale industrial and agricultural activities that can lead to cleaner air and water, safer and healthier neighborhoods and more functional and productive open space.

Encouragement of urban farming

Urban agriculture is an important and common occurrence in many African cities and can address several economic and environmental problems at the same time. Urban food growing, for example, is often a necessary and important means of survival for many, recently arrived rural migrants. A large number of these “rural refugees” have the needed survival skills to produce food on their own, provided they are given access to adequate resources. The types of skills involved in urban farming would also serve to help these migrants adapt to city life. The act of farming and marketing city-based agricultural produce contributes towards expanding social contacts, developing a sense of entrepreneurship and learning how to get about and live in the city.

Settled residents in many African cities also make use of private allotment gardens. The economic value of these plots, where space is available, is particularly important in African cities due the fact that household budgets for food generally account for a very high proportion of total household expenditures. There are also obvious links between people, food growing, “urban waste” and open space within the city that can be used in a creative way to support environmental economic and social values.

Urban farming can also be done more formally on the urban-rural fringes of African cities. In these cases there is a need to look at possibilities of developing small-scale complex economic initiatives that can include market gardens, greenhouse permacrafts, recycling operations, reforestation for servicing wood based industries, etc.

The overall land use planning goal is to establish multi-functional, self-sustaining landscapes that provide social, environmental and economic benefits. Under this scenario, land, food production and waste recycling are linked with employment and income. City farms and allotment gardens can also be used as a way to bring derelict land back into use and to prevent unauthorized construction on unstable or sensitive areas. There are growing examples of land regeneration schemes, even in the most industrialized countries, that include a mixture of uses related to farm animals, crafts, theater, auto repair workshops and other activities.

Urban farming is an activity in which the Sustainable Development Office has expertise, interest and capability. A pilot effort could be directed at Mission or regional level, and targeted for implementation by community, NGO, host country government or other donors. Efforts to expand and/or improve urban farming would have an immediate and positive effect.

Regeneration of vacant land and green infrastructure

Because natural systems and wildlife areas within African cities did not fit within the colonial perception of recreational open space, vacant areas in these cities were not considered as functional land uses with any intrinsic value. They were either neglected or transformed into

other uses over the ensuing years. Many of them were originally unsuitable for construction and are now covered by sprawling squatter neighborhoods and other illegal development. Growing recognition of the importance of natural systems within urban areas is now bringing to an end these previous assumptions about the non-productivity of open spaces and the 19th century preoccupation with leisure and aesthetics as the primary value of these areas.

In order to begin to regenerate vacant land and to reconstruct a system of "green infrastructure" that can handle city wastes and outflows, there is a need to know more about the impact of development patterns on the city's natural systems. Particular attention should be given to landscapes, watersheds, estuaries and bio-regions that will contribute to the sustainability of the city. Systems thinking requires a thorough understanding of watershed limits and other natural elements that will be affected by any new development. A whole range of alternatives and models through which natural systems can contribute to sustainable urban development include: areas of commercial, subsistence and urban agriculture; retention ponds and diversion of storm water run-off into temporary storage; use of oxidation ponds; wetlands and aquatic plant beds in place of conventional sewage treatment; vacant areas that can offer food, shelter and breeding places for the natural fauna; tree plantings; micro and mini-habitat development; etc.

Natural or contrived impoundments, sewage lagoon sites, land adjacent to industrial sites, etc. are all important areas that should receive serious consideration for the development of wildlife and biodiversity reserves within cities. Incentives must be provided at the community level to protect and manage these sites. The effort required does not differ very much from the approach used in Community Based Natural Resource programs that are now being implemented in rural areas. In fact, USAID Missions that have SOs in the natural resource sector may want to include support for urban biodiversity and wildlife development and management in their future Country Programs.

Promotion of industrial use of waste

As African cities strive to increase their industrial activity, there is an opportunity to group different industries so that the wastes of one can become inputs to another. Grey water generated from one activity, for example, can be used to cool industrial emissions while heat from yet another activity can be applied to greenhouse agriculture, and so on. The reduced costs involved with waste removal and the purchase of production inputs provide the necessary incentives for companies to participate in this approach. Waste recycling arrangements are becoming more prevalent in industrialized countries under "win-win" scenarios that produce very beneficial financial results for all participants.

Chapter 6

Elements of a Strategy and Low-Cost Options

This chapter attempts to identify some of the basic elements to be considered in developing a strategy and approach to address the urbanization and environmental concerns included in the SSO on Environmental Quality. The chapter also suggests several low-cost options that might be used to initiate such an approach. An incremental approach is proposed that will enable the Office of Sustainable Development to use its existing resources and programs to position itself for subsequent involvement in the urban environment based on available resources and the lessons learned from these initial experiences.

The present report is intended to be a starting point for discussion and dialogue about urbanization and development issues in Africa and strategic options which could be supported to address these challenges. As a "first cut", it offers a series of elements and ideas for use by the AFR/SD office as they pursue their analysis and develop a suitable strategy. This dialogue is now underway; for example, it was pointed out during discussions and review of the draft report that the policies that encouraged urbanization in Africa have changed, and urbanization rates could decrease, for a variety of reasons, especially if policy changes are put into place which reduce the income difference between urban and rural dwellers.

Future work by AFR/SD on urban issues should take account of these new, emerging trends and evolving context: what is driving economic growth? What are the drivers of urbanization? What are the drivers of economic and political crises? At present, we do not know a lot about the drivers of urbanization, nor about the radius of influence from an urban area in Africa. How is our limited knowledge affecting our development plans and program strategies?

As certain forces causing increasing urbanization are beyond the control of the Africa Bureau, should not AFR/SD be concentrating on economic questions or issues which are more manageable. What levers can be identified by which some effects can be achieved? A case in point would be analysis into financing and affordability of urban infrastructure for water supply and sewage treatment, the role of property rights and land use planning in urban areas and the economic costs of growth and development of these areas. Another topic to focus on might be the status/plight of new urban immigrants -- people not yet treated as city residents but no longer considered to be part of the rural community -- and their potential role in community-based organizations which can be empowered to improve the management and use of locally important natural resources (water systems, solid waste collection and recycling operations, gardens, open space, shade tree plantings, etc.).

Also, it will be important for the Africa Bureau to be aware of any "strategies" that might achieve significant multiplier effects, for example:

- to provide the rigorous data analysis that governments and cities cannot do and to give them useful information needed for policy making, setting priorities for public investment, etc.
- to deliver long-term training and capacity building programs.

It would also be of value to AFR/SD to have a clear understanding of policy issues that have significant multipliers which can make cities work; in other words, activities that are important enough to deserve the attention of the donor community and the host countries.

During discussions with the staff of AFR/SD, the point was raised that it would be interesting to have similar reports prepared by other "sectors" like population, health and education and look at them collectively, as a basis for a discussion of the issues. This is in full agreement with the concept of "synergism" in the urban area which is taken up in the AFR/SD Strategic Plan.

6.1 Starting Point

The 1992 Earth Summit in Rio and the more recent Habitat II Conference in Istanbul have produced a wave of international and local institutions and programs dedicated to addressing global and urban environmental problems. A virtual bandwagon of environmental activity has been created related to these two areas of environmental concern and their extremely close relationship. Virtually every region in the developing world is becoming more urban, while the majority of today's environmental problems, whether they be "green" or "brown," originate in cities. This situation is equally true for sub-Saharan Africa where all of the region's countries are now going through major societal transformations from predominantly agrarian to urban economies.

The focus of the Africa Bureau in the past has been placed on rural development and on helping the rural poor. Given current projections for rural population growth, as well as the existing agricultural and environmental conditions in rural areas, there is still an obvious need for this type of assistance. It is equally true, however, that sub-Saharan Africa is urbanizing very rapidly and that much of the region's future depends on the success of this transition and on the strength of the urban-rural linkages that are developed that go along with it.

6.2 Suggested Areas of Focus

The SD 1997-2003 Strategic Plan has been drafted and is in the first stages of implementation. It is now an opportune time to consider the environmental aspects of Africa's ongoing urbanization and the manner in which it might be incorporated into the overall implementation of this Plan. It should be kept in mind that the suggestions contained in this report are just the beginning. Considerable discussion and brainstorming within the Sustainable Development Office and with its "urban" and "rural" partners are required before any real approach or responsibilities can be defined. The underlying reality is that sustainable cities, agriculture and natural resources are inherently linked and that the sustainability of one cannot be achieved without the sustainability of the others. Suggested areas on which a future approach might begin to focus include the opportunities listed below.

6.2.1 Urban Environmental Actions through Local Governance and Community Participation

As indicated in Chapter 4, the SD SSO on Environmental Quality addresses urbanization and is the primary objective for which this Report was prepared. Other objectives of SD may also apply, e.g., SO5, which calls for the development of “improved policies, programs and strategies for increasing local control through strengthening community level civil society and decentralizing public authority.” Its primary concerns are decentralization and local capacity building that can be accomplished by improving financial management, local accountability, resource mobilization, roles of traditional governance systems, roles of civil society organizations, etc. Progress in these areas needs to produce improvements in the everyday lives of the people. Capacity building to improve the urban environment is one area in which tangible results from sound local governance can be achieved. There is a similarity in approach between the Community Based Natural Resource Management Programs (CBNRM) being implemented in rural areas and the types of efforts that are needed to improve the urban environment through local government and community-based activity. Water supply, solid waste and storm water drainage are immediate areas that could benefit from this approach.

The Sustainable Development Office has developed considerable experience with African NGOs in ENR and has supported innovations to extend their skills and resources to community support groups and citizen-based organizations. Large, formalized NGOs can be supported to expand the impact of USAID-funded technical assistance and training, while small, more informal organizations and community-based groups can be called on to implement specific grassroots applications. An interlocking network of both large and small local organizations dedicated to improving the urban environment should be encouraged. Faith in local governance will be increased by focusing on small scale, replicable interventions that produce tangible results.

6.2.2 Urban-Rural Linkages

As indicated in other sections of this report, many opportunities exist where USAID assistance can be beneficial in strengthening urban-rural linkages. The major linkages that exist between agricultural areas and urban processing and marketing centers are well documented and already the subject of AFR/Bureau activities. Developing local marketing networks that can be widely replicated and extended, for example, should be part of this effort.

SO3, for example, calls for improved information systems concerning food security, agriculture, poverty, nutrition and cross-sectoral linkages, all of which should include linkages to urban areas. Particular attention should be placed on developing the analytical capacity of selected African partners to assess and advise on environmental trends and management. Given that close to half the population in sub-Saharan Africa will soon be living in urban areas, it makes a great deal of sense to include consideration of urban areas in these assessments.

6.2.3 Urban Farming and Agriculture Marketing

Urban farming is already a widespread and beneficial activity in many African cities for both poor households and the urban environment. Any assistance provided through this type of activity would directly improve the technical and financial capacities of poor households. The ability to grow vegetables, keep chickens and small game, plant fruit trees etc. would significantly improve the economic situation of these households who generally spend up to two-thirds of their household incomes on food. Urban farming would also improve the environmental conditions of the city itself in terms of creating functional open space, regenerating derelict land, using urban wastes through composting, providing opportunities for experimental farms, creating related small-scale enterprises, etc. Larger, neighborhood style farms that include components for agriculture marketing and small-scale business development could also be encouraged.

SO3 is aimed at improved agriculture policies, programs and strategies that are designed to address the two most compelling problems in Africa: food security and poverty. Existing programs could include an urban agriculture component to improve conditions for a growing segment of the poor. NEXUS could also be expanded to identify the dynamic linkages between agriculture and environment in urban areas.

6.2.4 Natural Resource Use and Conservation in Urban Areas

There is a pressing need to regenerate and preserve natural ecosystems in African cities. Medium and small-size cities appear to be the best immediate candidates for these efforts. Many of these smaller cities could function very well as urban-rural hybrids that are based on a strong ecological orientation. SD already has good experience in the application of systematic development processes to local natural resource bases that are integrated, people-driven, focused on promotion of peace and security, inclusive of the disenfranchised, democratic in their methods of decision making, and linked to development by focusing on critical infrastructure.

Energy is a key natural resource consideration as both an input (for transportation, cooking, space heating and cooling and industrial processing) and an output (the carbon dioxide byproduct of fossil fuel combustion). It also has large- and small-scale economic and health-related impacts. African households, for example, can take a number of simple measures to help curtail the negative health impact of in-house smoke, conserve natural resources and improve household economics by using more efficient and safer stoves that use low-emission cooking fuels, such as biogas, natural gas, or propane. Active efforts to effect this energy changeover could be pursued.

AFR/SD also has experience in working with other donors in the basic principles of community-based environmental and natural resource assessment, and in providing technical assistance related to technology transfer in support of policy change. Joint efforts with donors directly involved in the urban environment could be developed in which SD continues to provide the expertise and experience in these areas.

6.2.5 Environmental Awareness and Education

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AFR/SD contacts with educators at all educational levels should continue to provide opportunities to encourage the inclusion of environmental issues in local curriculums at the primary, secondary, university and post-graduate levels, as they are already doing under SO6. There is also a need to re-educate the professional decision-making community. Architects and planners are becoming increasingly aware that many of the new approaches being considered to increase urban vitality, environmental harmony and bio-diversity were common practice in cities throughout the developing world until they were radically altered by the influence of colonialization and modernization. Even in developed countries such as the United States, there is movement towards post-modern planning approaches that emphasize community, human scale and environmental quality. Much has been done in urban environmental planning and strategy development through the Sustainable Cities Program operated by UNCHS/UNEP. This experience could form the starting point for part of this professional education. Professional exchanges and workshops as well as twinning African cities with environmentally conscious counterparts in the U.S. (e.g., Seattle, Chattanooga, etc.) could be part of this approach.

6.2.6 Encourage Clean Industrial Development

Industrial development is an essential element of sustainable development, in Africa as everywhere else. Practical policies are necessary to promote clean, environmentally and economically sustainable industry in Africa as part of its overall urban and rural development goals. Africa can attract clean industry through policies that promote industrial sectors and industrial estates that are environmentally and economically efficient. By ignoring the appropriate policies Africa risks a host of new problems ahead.

Experiences in Asia and Latin America illustrate ways in which clean industry can be attracted, as well as the significant costs of neglecting these opportunities. For example, despite its small size and unique circumstances, the Singapore experience is instructive. Since the late 1960s Singapore combined strict zoning requirements for industry along with economic and environmental policy incentives and increasingly strong environmental enforcement, resulting an increasingly clean and profitable industrial base. Other countries, failing to adopt far-sighted industrial policies, now regret it.

Policies that might be given more attention through research and pilot development programs in Africa include the following:

- policies favoring environmental reporting and disclosure of industrial environmental performance by government
- incentive policies encouraging environmental reporting and disclosure by industrial associations on a voluntary basis;
- policy incentives favoring adoption of environmental management systems by industry, such as ISO 14000;

- economic and environmental institutional analytical capabilities and needs for establishing policies that encourage introduction of clean industrial sectors;
- resource pricing policies (for water, energy, other natural resources) encouraging economic efficiency and environmental conservation;
- institutional mechanisms that integrate environmental protection and economic development agencies at the national and/or regional level to promote policy incentives for clean industry;
- economic and environmental planning processes and institutional capabilities for locating industry in industrial estates that require and operate common waste water treatment and other clean technology practices;

6.2.7 Electronic Exchange of Data and Experience on Urbanization and the Environment

SO4 calls for the development and implementation of more effective mechanisms for producing, sharing and using development information. As Internet and telecommunication services improve, there is need to have relevant information put into the system. SD/AFR could work with other donors (e.g., the EU and World Bank through the MELISSA program) to provide Missions, Regional Offices, NGOs and others with information and analysis on the urban environment and with transmissions of relevant experiences. AFR/SD has already launched an active networking program in AfricaLink that can provide a ready-to-use resource to help link up these countries and donors.

6.3 Low-Cost Options for Intervention

The directives for this assignment called for the identification of low-cost options to provide urban environmental assistance to African cities. Suggested options involve: fine-tuning existing programs and activities to include small-scale urban components; coordinating with other donors working on the urban environment to increase the impact of ongoing efforts; and developing a limited number of small-scale, pilot interventions based on available funds that will provide technical assistance and training related to urban environmental issues. Given the very preliminary nature of the current study, it is not its purpose to propose very precise interventions or their potential costs, but rather to indicate some of the urbanization initiatives that can be undertaken assuming that resources permit. An incremental and opportunistic approach is suggested through which potential "urban" environmental issues become legitimate SD concerns and are addressed as real applications become more apparent. Basic activities to be immediately pursued under the current plan center around technical assistance, training, institutional development, networking and coordination with other donors.

6.3.1 Technical Assistance

SO5 calls for improvement to be made in the tools, methods and approaches used for environmental monitoring and reporting. While work has been carried out in developing

performance measurement and analytic systems, there is still a need to promote the use of resource accounting in helping African countries develop "systems of ecological accounts" that can be applied at national, city and rural levels. This ecological accounting process begins with a careful choice of the key elements to be measured, including those within cities. Many countries are beginning to set up such accounts by attempting to quantify the natural wealth (forests, minerals, air, soil, water etc.) on which their economic wealth depends. SD is already assisting several countries in this kind of activity, which could be expanded to consider urbanization.

Also, the present effort by SD to develop African capacity to carry out environmental assessment, planning and analysis, as part of its Environmental Capacity Building Initiative (ENCAP), should also include consideration of urban issues. The further analysis of urban-rural linkages, the relative importance of urban issues, and program synergies between E/NRM and democracy and governance, population/health and economic growth can also be included in efforts which are organized by AFR/SD to support the development of FRAME and country-specific or regional NEXUS studies.

USAID also has the opportunity to leverage its provision of technical assistance by working closely with the World Bank and other multilateral donors in preparing policies and programs that can be funded by their loans.

6.3.2 Training

Training will help to ensure that everyone is working together. Mission and regional training programs need to work more closely with regional and urban planners in Africa to promote the concept of environmentally sound and sustainable cities. There is also a need to conduct workshops and brainstorming session for integrated groups of professionals that can establish broad-based, consensus-built visions of urban-rural linkages. A third area of training involves Mission and regional training programs that aim to improve the capacity of PVOs and NGOs involved in urban development, environmental assessments and environmental improvement. The objective of these NGO-oriented training activities would be to improve their capacity to consider environmental issues in their work, particularly with regard to urban-rural dynamics.

6.3.3 Institutional Strengthening

USAID is already very much involved in strengthening African NGOs, CBOs, neighborhoods and communities through the exchange of knowledge, international meetings, training courses and twinning arrangements with developed cities. The nature and occasion of these contacts should also include a focus on environmental problems and the development of sustainable cities.

Continued strengthening of NESDA will enable this agency to achieve more direct impact on the performance of its partners, including the Secretariats for NEAPs and others who are

already aware of urban environmental issues. Further institutional strengthening can be pursued through the SD Environmental Monitoring, Evaluation and Mitigation Plan (EMEMP) process, which emphasizes the development of host country indigenous capacity to generate information for use in planning development and implementation.

6.3.4 Networking

AFR/SD has already launched an active networking program ("AfricaLink") that provides a ready-to-use resource in helping in-country clients link up with partners in other African cities. AfricaLink, as one component of the Leland Initiative, provides support to USAID partner networks in Africa that are seeking access to the Internet in order to facilitate the exchange of information among their members.

AfricaLink's main purpose is to improve the flow of information among existing USAID partner networks in Africa. AfricaLink works through existing network leadership and information managers. It assists them in taking advantage of new technologies, while empowering them to manage information effectively with their network members. While environmental, agricultural, and natural resource management networks have been specifically targeted for assistance, an urban component could be added.

A close connection has also been established between MELISSA, which has a strong focus on urban development, and the Environment Information Systems Secretariat, which is a general information networking effort. Both of these organizations are located in CSIR in Pretoria and have strong connections with the NESDA in Abidjan. The beginnings of a productive, low-cost arrangement for information sharing are already in place, since AFR/SD invests in both NESDA and AfricaLink.

6.3.5 Donor Coordination

The SD SSO on Environmental Quality as well as SO5 call for improved coordination with other donors involved in environmental programs. At least some of this coordination will be carried out through the Multi-Donor Secretariat (MDS) attached to the World Bank. Similar to the approach outlined in the Strategic Plan, MDS has emphasized the Africanization of planning efforts and the improvement of local planning capacity in the region. NESDA will also help Africans put in place appropriate policy frameworks that emphasize urban environmental problems.

Finally, G/EUP provides technical assistance to local government units in management and financing. These efforts should be coordinated with AFR/SD as fully as possible. The formation of an "Urban Support Group" involving AFR/SD, G/EUP and such organizations as WRI's Policy Consultative Group, World Bank (especially the MELISSA program) and other interested parties would allow better donor coordination between USAID offices and other multilateral donors.

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Annex A

Summary of USAID Assistance in Fourteen Selected Countries

(Extracted from the Congressional presentation for FY 98)

1. Angola- the United States' second-largest investment site (over \$3 billion) and third-largest trading partner in sub-Saharan Africa. The country is a small, but stable, market for U.S. capital equipment and manufactured goods, especially those related to the petroleum industry. Angola is often considered the missing piece of the Southern African mosaic. With increased social and economic stability, the country will play a more significant role in the future growth of the sub-regional economy.

USAID plans to continue assisting war-affected Angolans to resettle, reconstruct and rehabilitate communities under Strategic Objective (SO) 1: Increased Resettlement of Displaced Angolans. With the assistance of CARE, World Vision, CRS and Save the Children (SCF/US) are building houses and cultivating food crops. USAID likewise supports significant community infrastructure reconstruction (schools, health posts, rural roads, bridges, and irrigation systems) including privatization of the water supply system in the capitol city Luanda.

2. Democratic Republic of the Congo- USAID has only recently re-established a USAID program here with special emphasis on Democracy and Governance. Also of interest is the Central African Regional Program for the Environment (CARPE), a general program dealing with the natural resources of the Congo Basin, a good example from the environment sector of USAID working successfully with other donors to achieve significant results. Together with the EU and the World Bank, USAID is creating an international awareness and developing a strategy to address the issues of deforestation and loss of biodiversity in the second largest rainforest in the world, thus ensuring that this valuable resource is managed in a more sustainable manner.

3. Cote d'Ivoire- USAID no longer maintains a program here, and the regional office (REDSO) is scheduled to be phased out.

4. Ethiopia- The nation is on the verge of attaining sustained economic growth after enduring two decades of economic disintegration and social turmoil. Ethiopia remains one of the poorest countries in the world. With 85% of its 57 million people in rural areas, agriculture determines the fate of the country. Ethiopia's gains in economic growth are seriously eroded by its rapidly increasing population.

Production is increasing and food is moving to the markets. The broad outline of the USAID program (especially SO1 - Increased Availability of Selected Domestically Produced Food Grain Crops) will likely continue to support efforts to encourage increased participation of the private sector, while at the same time re-defining the role of government in the agriculture sector. The program also emphasizes the promotion of small-scale farm production. The beneficiaries of which will be urban and rural Ethiopians who must purchase some or all of their food on the market.

5. Ghana- a leader in Africa in promoting economic reforms and establishing political stability, Ghana has undergone an ambitious economic transformation over the past 12 years. A more favorable economic climate has spurred both local and foreign private sector investment. The U.S.-owned Valco (Kaiser) Aluminum Company helps maintain the importance of the United States among Ghana's principal trading partners. Recent investments in Ghana by AT&T, Hunt Oil, Chevron, StarKist, Coca Cola, Luster Products, Mobil, America-On-Line(Africa) and Teberebie (gold mining) are examples of growing American investor confidence in Ghana. Many of Ghana's raw materials and capital goods come from the United States. President Rawlings of Ghana, his top advisors and leading Ghanaian business leaders have recently completed investment missions to the U.S. to encourage greater economic ties between the two countries.

USAID's efforts (SO1: Increased Revenues from Selected Goods and Services) have focused on increasing non-traditional exports (NTEs) in recognition that, for Ghana to sustain economic growth, it must expand and diversify its export base beyond the traditional exports Ghana and expand its export base into more diversified exports, such as horticultural crops, wood products, and fish and seafood.

The agriculture sector accounts for 40% of economic output and 70% of employment. A principal constraint to more rapid economic growth is low private sector investment in agriculture and also in manufacturing. Accelerated growth in agriculture, both in domestic and export markets, is essential to increase and sustain broad-based growth of the entire economy. Major obstacles to continued growth in NTEs include high inflation, tight credit, regulatory restrictions, high wastage and spoilage, excessive marketing margins, low use of inputs such as fertilizers, limited access to financing, and lack of knowledge of domestic and export market opportunities. In FY 1998 USAID will continue to maintain a strong leadership role in encouraging macroeconomic stabilization and reform of second tier policies that restrict or impede trade and investment in specific sectors, such as horticultural and wood products and financial services. Furthermore, USAID will continue to finance technical assistance and training to improve production capacity, support greater access to and development of foreign and domestic markets, and enhance infrastructure related to exports.

6. Kenya- continues to maintain a stable, pro-Western government and a free-market economy with a vibrant private sector. As a regional financial center, Kenya is an economic engine for the region and a growing African market for U.S. investors.

USAID has been and continues to be a lead donor in microenterprise development, a sector that provides more opportunities for rural and urban labor than any other sector in Kenya. USAID's strategic objective (SO2 - Increase Commercialization of Smallholder Agriculture and Natural Resources Management) will result in: 1) stronger and more competitive agricultural markets, 2) off-farm job opportunities for smallholders through microenterprise development and natural resource management related businesses, and 3) increased growth of non-traditional agricultural exports.

7. Madagascar- The international donor and scientific community has identified Madagascar as the single highest biodiversity conservation priority in the world due to its combination of high diversity, uniqueness and degree of threat. High population growth, rampant poverty and poor governmental policies have led a frontal assault on one of the planet's most exceptional sources of biodiversity. The USAID program (under SO1 - To Foster a National Policy, Regulatory and Resource Environment in Which Private Action Can Flourish) aims to stimulate private investment and employment, attack the longer-term causes of poverty, slow population growth and improve family health. Together these will help reduce the burden on the fragile environmental balance and protect the country's unique natural resources.

8. Malawi- Malawi is one of the poorest countries in the world. Its political and economic development has been impeded historically by its narrow economic base, concentrated ownership of assets, limited foreign and domestic investment, authoritarian leadership, high population growth, and low education levels. Still the country's macroeconomic management is good and the policy framework is a sound one, marked by aggressive and realistic fiscal management, good monetary policy and market-determined exchange rates.

USAID's strategy for helping Malawi achieve broad-based, sustainable economic growth (SO1 Increased agricultural incomes on a per capita basis; and SO2 Increased sustainable use, conservation and management of renewable natural resources) concentrates on raising agricultural incomes. Through institutional and policy reforms plus targeted projects to promote competition, liberalize markets, and improve management of the country's constrained natural resources, USAID is helping to improve the standard of living of the majority of the population.

9. Mali- has made remarkable progress in liberalizing its economy and capitalizing on the 1994 currency devaluation. Mali's chief development challenges are: (a) a growing population (two-thirds of it under age 25); (b) producers still struggling to take full advantage of the 1994 devaluation of the country's currency; (c) a fragile natural resource environment; and (d) community-level organizations with inadequate skills to play effective roles as partners in the establishment of a decentralized government system.

USAID is concentrating on the direct delivery of services to communities and businesses. Thus, USAID activities through 2002 aim to: (1) improve access to, demand for and quality of services to help youth under age 25 acquire the knowledge, skills and practices necessary to ensure Mali's sustainable development, (2) increase economic growth through investment in major economic subsectors, and (3) help community organizations work with government to govern the country. (SO1- Changed Social and Economic Behaviors Among Youth; SO2 - Sustainable Economic Growth; SO3 - Democratic Governance esp. Community Organizations in Target Communes). USAID's efforts to improve access to and facilitate the use of information will also increase the impact of these activities. Having connected Mali to the Internet, USAID will help private sector firms to train Malians to exploit its information.

Following the large devaluation of the West African currency in 1994, Mali's more efficient farmers and those producing cotton benefitted greatly. However, the cost of living increased

significantly for the 20% of Malians who live in urban areas. Inflation increased by 34% that year, while wages increased by only 15% for the small percentage of Malians working in the formal sector. Urban employment increased slowly, due to the delays involved in bringing new investments on line.

10. Mozambique- is considered a major success story in war-to-peace transition programs in sub-Saharan Africa and is showing much promise in moving forward on its post-transition development efforts. It is still compromised by a weak institutional base, a dearth of human capital, and the fragility of the economic reform program. Mozambique requires broad-based, sustainable economic growth to reduce the number of its citizens living in poverty. The engine for this country's growth will be the agricultural sector, which employs the majority of Mozambique's heavily rural population. USAID will continue its leadership role in promoting policy reform through the Title III program, and technology transfer, market development, micro-enterprise expansion, and infrastructure rehabilitation through its regular portfolio of activities as the foundation of its strategy to accelerate economic growth.(SO 1 - Rural Household Income Increased in Targeted Areas).

11. Nigeria- With over 100 million people, Nigeria is the most populous country in Africa and the 10th most populous country in the world. At its current population growth rate of 3.1%, Nigeria's population will double in 22 years. Current U. S. investments in Nigeria are estimated at \$4 billion. If economic growth is sustained and a stable and democratically elected government is instituted, Nigeria has the potential to be a major political leader in resolving regional issues. The United States remains the largest bilateral donor in health and democracy/governance, the only sector in which it provides assistance.

12. Senegal- one of the few politically stable, multiparty democracies in Africa. Despite its meager resources, Senegal has played a key role in crisis resolution and in improving security conditions throughout Africa. With its economic policy environment now generally in order, Senegal is poised to advance both economically and politically. Liberalization of agricultural markets and the elimination of government-owned corporations (parastatals) has brought about market-based (instead of government controlled) pricing for major agricultural products.

USAID will likely concentrate on two objectives including(1) reduction in population growth to at least the levels desired by the families themselves, and (2) halting the deterioration of the environment (esp. through SO2 - Increase Crop Productivity Through Improved Natural Resources Management in Zones of Reliable Rainfall.) Also, the Leland Initiative, which provides increased access to and utilization of the Internet, may be used to expand competition and service outside of Senegal's capital city.

In Senegal it is in the U.S. interest to help decrease family size and to slow the country's 2.7% annual population growth rate. If left unchecked, this will continue to negate Senegal's economic gains, hasten environmental degradation, increase poverty, and exacerbate Senegal's urban migration problems. To counter the current trend, USAID's population program is strengthening

both public and private family planning services to meet a significant unmet demand for such services in both rural and urban areas.

13. South Africa- The high rate of growth in the urban areas (almost 3% per year) could shift the population such that 80% of the population might live in urban areas by 2010. The small, poorly-constructed, over-crowded housing of the urban poor generally lacks public utilities. Housing has been ranked by historically disadvantaged South Africans as one of their highest priorities, along with education and health. A shortage of 1.5 million units in urban areas alone needs to be addressed.

At present, approximately 48% of all South African households lack adequate housing. An estimated 34% lack safe drinking water and 45% lack inside sanitation.

USAID/South Africa's program assists South Africans through the difficult, post-apartheid, transition years and will leave in place improved human capacity and institutions, and greater access to capital for the majority of South Africans. This will promote the consolidation of democracy and effective, equitable use of national resources. The areas of focus (i.e., SOs) include: (1) democracy and governance, (2) educational reform, (3) health system reform, (4) economic policy development capacity, (5) private sector development, and (6) housing and urban development.

14. Tanzania- Substantial progress has been achieved in economic reform as well, including the elimination of price controls and parastatal divestiture. The country is rich in natural resources and contains some of the world's most biologically diverse ecosystems. It has the potential to become Africa's next success story.

Its population of 28 million, growing at the rate of 2.8% per year, places tremendous demands on social services, employment creation, and contributes to unsustainable exploitation of the environment. Over 80% of the population is engaged in agriculture, producing 60% of both GDP and exports. The country is well endowed with minerals and multiple agro-ecological zones permit production of a wide variety of agricultural exports. USAID assistance in this sector will be provided through SO4 - Increased Private Sector Participation in the Economy; and SO2- Foundation Established for Adoption of Environmentally Sustainable Natural Resource Management Practices.

15. Uganda- landlocked and sharing borders with Kenya, Tanzania, Rwanda, Zaire and Sudan, Uganda has a population of 20 million people. The country boasts a rich and diverse natural resource base, a variety of agro-ecological climates and ample rain across three quarters of the country. progress toward a democratic transition, combined with liberal economic policies and strict monetary management in conformity with an IMF-supervised structural adjustment program, has led to increased security, renewed investor confidence and robust economic growth. In the Government of Uganda (GOU) fiscal year ending June 1996, the economy grew 8.5%, making it one of the fastest growing economies in Africa.

SO1 aims to increase income from on-farm activities, primarily by increasing non-traditional agricultural exports, and from off-farm activities by encouraging the growth of micro and small

enterprises and improving the overall business environment. Increasing non-traditional agriculture exports can benefit thousands of marginalized farmers.

16. Zimbabwe- Though Zimbabwe's performance under its economic reform program has been mixed, it has made impressive progress toward a market-oriented economy which should lead to greater foreign investment, including investment from the American private sector

As the United States is Zimbabwe's fourth leading trading partner after South Africa, Germany and the United Kingdom, assisting in the development of markets for U.S. goods and services is in the national interest of the United States. (In 1995 Zimbabwe imported \$113.2 million in U.S. merchandise and exported \$158.4 million worth to the U.S.)

Population growth, on average, still outpaces economic growth and brings added pressure to bear in the shelter and housing sector. This is addressed in USAID's SO2- broadened ownership in a growing economy — which acknowledges that access to economic resources and economic empowerment has been disproportionately vested in the minority population (of European descent) and government itself. By broadening access to economic assets, opportunities for increased competition and improved efficiency are created. USAID assistance in this area has three components: increased access to low-income shelter and its attendant economic benefits; support to the private sector through employee ownership schemes, business/trade associations, and mechanisms to increase access to capital for small- and medium-sized enterprises; and promotion of local private sector training organizations.

There has been great success to date in the area of low-income shelter, where USAID has been involved in promoting housing development and mortgage lending techniques. Between 1992 and 1996, nearly 17,000 low-income households have received mortgages for houses. Several thousand more units are presently under construction. Since 1992, the number of low-income Zimbabweans that can afford a house has tripled as a direct result of reforms negotiated through the USAID program. American assistance guarantees the mortgages in case of default—and the default rate is very small as low income Zimbabweans are excellent credit risks.

USAID's assistance in broadened ownership (equity) of Zimbabwean assets is an attempt to play a catalytic role in several key subsectors of the economy with an aim to increase the size of the economic pie so that more players have an opportunity to share in the fruits of a growing economy. Economic growth that is inclusive rather than exclusive enhances prospects for national stability. U.S. assistance that encourages greater equity is an investment in that stability. In the Zimbabwean low-income housing case, U.S. economic partnerships have already formed. Continued growth and stability will encourage even greater foreign and domestic investment in this and other sectors.

Annex B
Highlights of USAID 1998 Mission Programs in Africa in
Areas Related to Urban Development

Benin

Democracy

- Decentralization and local government fiscal autonomy are priorities. A decentralization bill is now before Parliament.
- Focus of USAID to date on elections, NGO strengthening and democratic institution-building.
- USAID will promote good governance at decentralized levels by improving the legal and regulatory framework necessary for transparent and accountable local government.

Economic Growth

- Activities in economic growth focus on education.

Health

- Much of the activity in health is in the areas of family planning and HIV/AIDS, but activities in child survival are planned.

Eritrea

Democracy

- Commitment is demonstrated by the building of local government and a substantial governance capacity-building effort is planned to support and reinforce the establishment of a democratic government. In-country training will be provided to judges and local officials.
- USAID's strategy for democracy and governance includes, among other things, support for the Constitution Commission and institutional strengthening of the Central Bank of Eritrea.
- The democratic governance strategic objective addresses capacity in three areas: accountable governance at local, regional and national levels.

Environment

- USAID negotiated a large program to increase rural incomes which will help rebuild rural roads and expand rural enterprise.
- Actions by the Ministries of Agriculture and Marine Resources include large-scale reforestation and watershed-treatment, research on an policing of coral reefs, and environmental education, planning and assessments.

Economic Growth

- USAID's program focuses on the operational improvement of the Commercial Bank of Eritrea to enable the institution to provide better banking services to more people in rural areas.

Ethiopia

Democracy

- The challenge is to move away from a highly centralized and historically authoritarian mode of government.
- Reform of financial management and accounting practices at central and regional levels is taking place with USAID assistance.

Environment

- Need to focus on other essential aspects of long term development, e.g. build the rural infrastructure (roads, small dams)
- NGO efforts to increase agricultural production include the construction of irrigation systems and farm to market roads.

Health

- Even with the commitment of financial and human resources, it will be 5 to 10 years before the infrastructure and programs are in place to allow Ethiopia to feed itself adequately on a sustained basis.
- Community-level surveys are planned in the second quarter of FY 97.

Ghana

Democracy

- Activities are focused on election processes and NGO strengthening.

Economic Growth

- Activities include improving infrastructure related to economic growth, such as warehouses, harbors, etc.

Environment

- Activities focus on forest management.

Kenya

Three focus sectors, namely democracy and governance, economic growth and population and health.

Democracy

- The challenge is to consolidate the economic gains accomplished and commit the government to reforms in democracy and governance.
- USAID is encouraging debate on various democratic governance problems and supporting increased civic participation.

Economic Growth

- The priority is strengthening private sector participation and competitiveness in agricultural markets.

Malawi

Democracy

- USAID, has significant opportunity to contribute to Malawi's efforts to consolidate its democracy via mutually-reinforcing relationship between democracy and economic development.
- The executive branch remains dominant. Continued assistance is required by the other branches of government.

Environment

- Diminishing surface and ground water supplies are causing intermittent water and power shortages.
- USAID efforts focus first on developing a unifying, comprehensive policy and legislative framework governing natural resources management.
- The GOM will establish, under a USAID SO, the mechanisms for the sustainable financing of private environmental initiatives.

Economic Growth

- Malawi's democratic development and its economic growth go hand-in-hand. It has begun the process of dismantling and privatizing state-owned enterprises.
- With USAID assistance, Malawi Railways formally privatized and restructured itself in 1995 and is now operating without government subsidy.

Mozambique

Democracy

- USAID is strengthening new democratic institutions and consolidating democratic processes. The results of USAID's democracy building program will be ... (ii) increased citizen participation in governance at national and local levels, through broadened public debate, (iii) effective and accountable government and civil society institutions at both national and local levels.

Environment

- With AFSI funding, additional farm-to-market roads will be rehabilitated using proven labor-intensive methods.
- In conjunction with the Mission's road rehabilitation project, activities will be initiated to support biodiversity protection.

Economic Growth

- USAID will continue its leadership role in micro-enterprise expansion and infrastructure rehabilitation through its regular portfolio activities, as the foundation of its strategy to accelerate economic growth.

Namibia

Namibia is focusing on increasing the social, economic, and political opportunities of the majority of the population through intervention in four areas including environment and natural resource management and democratic institution building.

- Namibia plans to construct a 250 km water carrier to provide and guarantee sufficient water for the capital and central parts of the country.
- Resources are being provided to protect Namibia's fragile natural resources base, particularly, in the environmentally threatened communal land areas
- Efforts are also underway to strengthen the legislative branch of government to ensure a free and open democracy.

Tanzania

Democracy

- USAID Mission will help build a strong foundation for the transitional to democratic governance.

Environment

- Mission activities help rehabilitate rural and district roads. Objective includes supporting private-sector solutions to road infrastructure constraints.
- Basic infrastructure is lacking and stifles the day to day operations of businesses. Rural and district roads are in serious disrepair.
- Rapid population growth increases the demand on the natural resource base and results in unsustainable exploitation of the environment.

Economic Growth

- Over 144 state-owned enterprises out of 382 have been removed from government control through sale, lease or liquidation and there are plans to remove an additional 50 firms a year for the next several years.
- The financial sector is underdeveloped and does not perform its essential role of mobilizing savings and allotting them to their most productive use.
- Ongoing USAID assistance in restructuring the financial sector has enhanced the technical and managerial skills of the Central Bank and increased its independence and prepared the groundwork for a private sector insurance industry.

Uganda

Democracy

- As Uganda makes its first steps towards democratization, USAID programs are helping citizens to be better informed and to participate in decision-making at the local level
- Achievements include the devolution of authority and resources to local government. Local governments have recently been given substantial budgetary resources and authority to provide a wide variety of services.
- The GOU's policy of decentralization places management responsibilities of primary schooling with local government. USAID will support activities that strengthen institutional capacity.

Environment

- Partnering with local communities (Wildlife Authority) which contributes to democracy and governance objectives by empowering local communities to manage and control natural resources, fostering opportunities for local economic growth.

Zambia

Economic Growth

- USAID has played an important role in the economic reorientation of Zambia over the past 5 years, especially in the privatization of state-owned enterprises. The objective of USAID's Privatization Support Project was the privatization of between 50 and 75 state-owned enterprises. As of September 1996, Zambia had privatized 137 former parastatal units.
- The two USAID-funded business training activities supplement privatization efforts by providing skills and management training to new entrepreneurs.
- New USAID obligations are to be used to privatize additional major state-owned industrial and training enterprises from the grip of inefficient, bankrupt public management.

REDSO

"In recent years, most southern African countries have progressed rapidly in the attainment of the economic and social indicators of successful development."

"In southern Africa that involvement is focused on promoting the establishment of stable, productive, market-oriented economies, which have a real potential for reaping the benefits of past and ongoing U.S. investments through rapidly expanding trade and economic growth."

"The member countries of the southern Africa Development community have developed a shared vision of economic development and cooperation for the future and have been able to end major conflicts in the region that were detrimental to regional cooperation."

Economic Growth

- In FY 96, USAID assisted in the mitigation of critical constraints of economic growth by: initiating a series of regional workshops which brought together for the first time

host government policy makers, the private sector and NGOs to develop and Action Plan to eliminate policies and regulatory constraints to intra-country trade throughout east Africa.

- Economic growth funding in FY 98 will enable USAID to continue to respond to a significant level of request from client USAID missions for specialized technical assistance.

Environment

Fourteen USAID countries have objectives focusing on the protection of the environment.

- FY 98 funding will allow USAID to maintain its high quality regional environmental expertise, while continuing innovative activities addressing critical environmental challenges, including regional environmental and natural resource issues. Activities will be drawn from the GHA Environmental Stakeholders Survey to address regional environmental and natural resources management issues related to food security and conflicts in the GHA region.
- Over the past few years, the regional program has supported an approach which emphasized (1) local control over local resources and (2) investment in the development and use of new resource saving technologies.

Democracy

More than half the countries in sub-Saharan Africa now have or are moving toward improved democratic governance. Governments are learning, though very slowly, to share power and involve their citizens. 15 USAID programs in the region have adopted strategies to build democracy.

- USAID is assisting in the design of a local governance component of Rwanda's program to promote the expansion of democracy in the country.
- The FY 98 funding requested will enable USAID to: maintain high quality regional democracy and governance advisory services for USAID missions, governments, and NGOs in the region, while continuing to play a key role in formulating and coordinating conflict prevention.
- REDSO has supported the development of democracy and governance strategies in Ethiopia, Tanzania, Namibia, Rwanda and Zambia.

Africa Regional Program

"Sub-Saharan Africa is in the midst of 2 difficult transitions: (1) moving from centralized, state-run economies to market based free enterprise economies and (2) moving from authoritarian political systems to liberalized and democratically governed political systems."

"The central development challenge facing sub-Saharan Africa is to mobilize resources for investment in both economic and social infrastructure.... Increasingly African countries will need to turn to the private sector, both indigenous and foreign, to provide investment funds needed for sustainable growth.... But private investment will only be forthcoming in stable

and supportive political and economic environments.”

“Regional cooperation is in its infancy, and important agendas for cooperation among the countries of specific sub-regions such as Southern Africa, and among sector specialists such as health professionals need to be nurtured.”

Economic Growth

- The Africa Business Roundtable has leveraged improvements in areas such as regional banking and regional trade.
- The Leland Initiative has negotiated the liberalization of telecommunication policies, leading to broad-based access to the Internet for public and private entities in a number of countries.
- Other focuses include sustainable financing of education and agricultural research.

Health

- Activities include assistance to national and regional governments and malaria control.

Environment

- Activities are designed to address population pressure on the natural resource base, including forests, soils, biodiversity (and water?).

Democracy

- The regional program focuses on (1) building understanding of how to examine what is needed for long-term success in a democratic transition, and (2) providing assistance to local groups to improve their capacity to lobby government on human rights and government accountability.
- Activities include: building capacity to carry out strategic assessments and support for decentralization.

Other

- The program also manages a Special Self Help Development Fund to promote civic endeavors, a fund for “initiating unsolicited proposals that go beyond the mandate for a particular USAID Mission and a fund to promote economic policy reform.

Annex C
USAID/South Africa
The Urban Strategic Objective

USAID/South Africa, through its Strategic Objective (SO6), concentrates its activities on, "...improving access to environmentally sustainable housing and urban services for the historically disadvantaged population in South Africa."

The intermediate results (IR 6.3) for this SO calls for increased non-credit forms of assistance made available that results in the acquisition of shelter services. Another intermediate result (IR 6.4) calls for improved capacity to apply sustainable/participatory environmental management principles to local-level urban development.

The provision of housing to its historically disadvantaged population ranks among the primary concerns of the current government of the Republic of South Africa (RSA). In consequence, the government has set itself a highly publicized goal of delivering one million housing units by the year 2,000. The need to create an entirely new legislative and administrative framework that would set up the structures required to deliver the promised houses has significantly retarded the rate of delivery.

At the same time, in the three years since democratic national elections have taken place, the Department of Housing has succeeded in creating a series of new structures to facilitate housing delivery for low income households including: a revamped national subsidy/grant program for low-income families; a Mortgage Indemnity Fund to protect lenders from non-repayment linked to political risk; a Builders Warranty Scheme to ensure the quality of housing construction; and a National Housing Finance Corporation to mobilize housing finance. In recent months, the pace of delivery has picked up dramatically as the various entities have acquired staff and have begun to operate as planned. However, a number of factors continue to constrain the rapid production of housing.

One major factor is the role played by community participation in the delivery process. As initially envisaged, communities, municipalities, and developers would develop a "social compact" spelling out the needs, expectations and commitments of the various parties. Unfortunately, the compacts that have emerged have been: developer driven, not reflective of the inputs of the community, time-consuming to complete, and impediments to rapid delivery.

In consequence, the government has decided that social compacts are no longer mandatory. At the same time, recent community-based research, financed by USAID/SA, has confirmed that, without community involvement in the delivery process, the result is widespread disappointment with the final product and a high probability of long-term unsustainability. Hence, despite its inherent problems, the community participation process needs to be re-fashioned to ensure that it can perform its intended role.

A second factor, and one that is identified by many observers as being the most significant, is that of affordability. High rates of unemployment, low income-levels and a history of bond boycotts had resulted in an unavailability of end-user finance from the private sector.

The government has attempted to address the issue of affordability through its subsidy program which provides up to R15,000 for families in the lowest income group (i.e., those earning below R800 per month). At the same time, even the housing subsidy of R15,000 has not been enough to provide a house. With 50 % or more of the subsidy going for servicing the site (depending upon the location), the remainder can only furnish a rudimentary structure. To complete a small three to four-room house (30 to 50 square meters) would require either: (1) a significant amount of sweat equity from the recipient; (2) provision of a free or subsidized serviced site by the participating municipality; (3) additional credit (R5,000 to R10,000) from a formal or non-traditional financial institution; or (4) a combination of the above.

Interestingly enough, a community-based process of decision making has proven to be the most effective way of ensuring that the right decisions are made and that the optimal combination of the above-listed inputs is utilized.

A third factor, and one that is closely linked to affordability, is that of environmental sustainability. South Africa has serious urban environmental problems linked to lack of access to water and sanitation, and to clean, low-cost energy sources. The result is high levels of water pollution and even higher levels of air pollution as households burn cheap high-particulate coal, or wood, for cooking, heating and illumination. The negative impact on the health of low-income families is significant in that diarrheal and upper respiratory diseases abound.

Moreover, the long-term costs in terms of health and economic development are incalculable. The most direct way to assault the problem is the provision of water and sanitation and the electrification of currently unserved areas. However, the pressure to deliver housing as rapidly as possible does not always permit the optimal response to the situation. For example, electrification does not necessarily have the desired impact upon air pollution in low-income areas because the cost of electricity (and the structure of payments) inhibits its use for heating and cooking. Thus, most low-income families with access to electricity continue to burn cheaper fuels despite the health and environmental consequences.

A second way of addressing issues of environmental sustainability is to promote the use of technologies that are affordable, and technologically accessible for low-income communities. The construction of low-cost, socially acceptable energy-efficient houses would reduce the need to heat or cool interior living spaces and would furnish low-income families with significant benefits including: lower fuel costs, improved health, above all for women and children, and better living conditions.

These are all attributes consistent with the USAID effort in South Africa.

Annex D

USAID's Trade and Investment Initiative

(Source: AFR/SD/EA)

A. Recent, Related USAID Project Activities

Some of the new "trade and investment activities" may be expanded from or related to USAID technical assistance efforts in Africa that have been recently completed or are now under way. Such USAID activities have included the following:

1. Legal and Regulatory Reform

a. --As in Uganda and Mozambique, private sector "Investor Road Map" surveys in Ghana, Tanzania, and five other SSA countries have documented the numerous steps required to invest in these countries, and have been instrumental in showing policy makers the delays caused by excessive regulatory procedures and the importance of streamlining investment procedures. These provide a "diagnostic base" from which African governments can implement reforms in laws, administrative procedures, and red tape that currently discourage or thwart foreign and local investors.

b. --Support for the Ghana Investment Promotion Center and the Uganda Investment Authority have enabled them to act as one-stop shops for investors interested in business opportunities in these countries.

2. Privatization of Enterprises and Infrastructure

a. --USAID technical assistance and training to the Zambia Privatization Agency (ZPA) was instrumental in helping ZPA to carry out a massive privatization program since 1995. By end-November 1997, 214 of 350 state-owned enterprises — including most components of the copper mining giant ZCCM — have been privatized (i.e., actually sold to private investors) while negotiations are nearly complete for 10 more. In addition, twenty-seven money losing parastatals — including the national airline and the national bus company — were simply liquidated because no buyers were interested in companies where liabilities constituted multiples of assets.

b. --USAID has provided extensive advisory assistance to Mozambique and other former "front-line states" in the transportation sector, including privatization of the management of the Mozambican ports, water transport, customs, and railways.

3. Trade Policy, Infrastructure Policy, and Non-Traditional Exports

a. --Based on its work in Mozambique, USAID assisted the Southern African Development Community (SADC) to develop in 1995-96 its Protocol on Transportation, Communications, and

Meteorology — which emphasizes private sector development of infrastructure and private operation of transport systems.

b. --USAID and European Union-funded advisors helped SADC develop in 1996 its Trade Protocol — which emphasizes free and fair competition, privatization of trading houses, and elimination of tariff and non-tariff barriers among the 14 SADC members (over a schedule to be negotiated but completed by 2005). Additional assistance has been given to SADC in 1997 to help its members finalize and implement the annual reductions in trade barriers.

c. --USAID's Non-Traditional Agriculture Export Programs in Uganda, Ghana, Guinea-Bissau, Kenya, and Zimbabwe are helping these countries expand and diversify into non-traditional agricultural export commodities that can significantly increase foreign exchange earnings and incomes of microenterprises and farmer groups. In Kenya, a program for export development assistance directly to private sector firms has generated dramatic increases in export earnings for that sector.

4. Strengthening Regional Networks and Associations

a. --USAID has supported the African Economic Research Consortium (AERC), the International Center for Economic Growth (ICEG) and similar institutions that provide graduate training in economic analysis and strengthen institutions with the capacity to conduct policy analysis. USAID has supported over 500 masters degree holders in applied economics, and some 33 university Departments of Economics in East, Southern, and West Africa have had their teaching and research capacities strengthened. A major recent focus is on South Africa-where USAID's Mandela Economic Scholars Program is now providing graduate U.S. training for economists and where USAID will assist new centers of excellence for graduate training and research in economics within South Africa.

b. --USAID has also supported development of regional and sectoral business associations such as the Africa Business Roundtable, the West Africa Enterprise Network, the Eastern and Southern Africa Business Organization (ESABO), and the Uganda National Forum that play a strong advocacy role for policy reform and increase linkages amongst African and U.S. organizations.

5. Development of Credit and Capital Markets

a. --Banking reform and support for credit to microenterprises in S. Africa, Tanzania, Uganda, Malawi, Mozambique, and Kenya are major USAID initiatives that have helped small-scale entrepreneurs to obtain credit.

b. --Establishment of a \$100 million South Africa Enterprise Development Fund and smaller national funds in South Africa and Zimbabwe to create access to long-term risk capital for start-up investments and business expansion.

c. --In the past, technical assistance to securities market development in Côte d'Ivoire, Uganda, Kenya, and Swaziland included devising appropriate stock exchange regulations and helping to create an understanding of the concept of a well-functioning capital market.

Annex E

Key Actions for Sustainable Development in the Durban Municipality

PART 1

A recent sector report and case study in Durban have suggested a number of specific actions which illustrate the range of actions that could form a starting point for a process of ranking and selecting. They have been arranged into the five systems examined.

Key Actions for the Natural System

- . Protect and promote the value and attractions of the DMA's natural systems to encourage tourism and recreation and mobilize the sustainable economic potential of the area's resources.
- . Extend the Durban Metropolitan Open Spaces System throughout the entire DMA to avoid losing the self sustaining function of important remaining natural areas, protect rare habitats and species, and create a unique recreational facility within the reach of all urban inhabitants.
- . Carry out a survey of terrestrial resources and an environmental zoning exercise for the DMA, by identifying areas unsuitable for development, for example wetlands, dunes and steep slopes; or of threatened status, for example coastal grasslands: and zoning them accordingly.
- . Lobby for an Environmental Protection Agency at local, provincial and national levels to facilitate independent auditing of environmental performance.
- . Integrate planning across all systems to facilitate maximum sustainable benefit from the natural resource base, and to avoid development in opposition to environmental constraints.
- . Institutionalize the Integrated Environmental Management (IEM) approach of the Department of Environment Affairs and Tourism, by requiring environmental impact assessments for all developments, and increasing capacity in order to prevent unnecessary delays to development.
- . Promote and develop environmental education forums and curricula.
- . Establish agreed standards of air quality and agreed methods of measurement, and reduce SO₂ concentrations, especially in the Southern Industrial Basin.
- . Develop an agreed air management strategy incorporating agreed modeling and monitoring systems. This needs to incorporate an expanded and improved air quality monitoring network.
- . Promote nurseries of indigenous plants to meet traditional use needs, creating employment,

improving availability and reducing costs, reducing pressure on natural stocks, and increasing awareness of the natural heritage.

- . Develop catchment based management strategies for land use, rivers, groundwater and estuaries. This needs to emphasize estuarine Management to prevent further estuarine degradation and loss of marine stocks, recognizing that estuaries are the recipients of all activities and impacts in the catchment.
- . Develop an integrated management strategy and plan for Durban Bay before its natural functioning is further impaired and commercial and recreational resources are lost.
- . Develop a strategy to rehabilitate the Isipingo catchment and estuary.
- . Review management of the whole coastal zone to promote more holistic development and generation of socioeconomic potential.

Key Actions for the Built Environment System

- . Develop a DMA wide spatial plan which includes spatial distribution of population and employment and a densification strategy.
- . Identify opportunities in specific areas for integrating the built and natural environments.
- . Translate city building principles into useable planning criteria.
- . Plan for urban agriculture as part of land use policy.
- . Provide mixed use zones where income earning opportunities are available in residential areas.
- . Promote densification in low density areas by relaxing zoning controls and using performance standards.
- . Develop a DMA transportation plan incorporating the provision of public transportation and integration between all forms of transport.
- . Investigate setting up a DMA energy planning body and develop an integrated energy plan.
- . Investigate the viability of alternative energy sources.
- . Provide economic incentives for efficiency in energy and water use and waste production.
- . Provide incentives for industries to adopt alternative fuels and technologies.

- . Investigate options for recycling water.
- . Develop affordable waterborne sewerage systems.
- . Institute uniform and appropriate water and effluent tariffing to cater for affordability and promote efficient use.
- . Develop an integrated services provision policy -water, waste, sanitation and health which provides adequate basic services in the short term.
- . Develop an integrated housing policy.
Rehabilitate and upgrade existing housing stock.
- . Provide environmental education for housing developers and professionals.
- . Produce an integrated waste management strategic plan for the DMA and prioritize areas for action.
- . Introduce tariffing of services such as electricity, water and waste to promote efficient use of resources and waste reduction at source.
- . Develop a DMA vision for a sustainable economy.
- . Develop local economic strategies which are sustainable.
- . Promote environmental education for business.
- . Promote business-city partnerships around economic projects.
- . Create opportunities for small, medium and micro businesses.

Key Actions for the Social System

- . Develop a vision and work towards a less divided society.
- . Ensure urban planning enables racially and class mixed areas.
- . Provide environmental education for decision makers, professionals and teachers.
- . Develop an environmental education curriculum.
- . Provide education on health and wider causes of ill health.

E-4

- . Develop a common health vision and clear agreed objectives.
- . Develop rules for change - what is acceptable (negotiation) and what is not acceptable (force).
- . Provide effective community policing.
- . Develop strategies to address the underlying causes of violence and crime while adequately controlling them in the short term.
- . Take immediate action against the abuse of women and children.
- . Provide education to build new value systems, so that the quality of life is
- . Develop a strong top level metropolitan authority management team to work closely with councillors.
- . Establish a structure to coordinate DMA land use, environment, economic development and transport planning.
- . Develop cross-sector spatially focused development teams.
- . Build partnerships between city and local forums.
- . Rebuild local government in black residential areas, incorporating forums.
- . Create a centralized metropolitan function for the environment.
- . Create a DMA environmental forum.
- . Resource local pollution forums.
- . Create an environmental protection agency for independent auditing.
- . Develop a coordinated management structure for Durban Bay.
- . Carry out air quality monitoring and enforcement at the DMA level.
- . Establish catchment based management systems for both land and water, including estuaries.
- . Develop a strong metropolitan integrated planning function.
- . Develop an integrated transport function at metropolitan level.
- . Establish a unitary metropolitan water and sanitation management system.

- Integrate departments with waste management responsibilities.
- . Develop stakeholder partnerships around the delivery of key services.
- . Establish a strong local economic development function at the metropolitan level.
- . Establish a business environmental forum.
- . Establish a DMA environmental education forum.
- Establish intersectoral health forums.
- Establish community health forums.
- Strengthen environmental health.
- . Democratize the metropolitan authority's finances so that information is available in an understandable form.
- . Mobilize funding to match the DMA's overall development strategy.

PART 2

KENYA SMALL TOWNS

Mobilizing Voluntary and Community Action for Environmental Planning and Management

Secondary cities in Kenya are growing rapidly as are their environmental problems. A training program that uses elements of the EPM process has been initiated by the Ministry of Local Government with Dutch support to help these small towns address their priority environmental issues.

Urban Development and the Environment

In Kenya, small towns have a population of between 5,000 and 80,000 and cover areas ranging from 5 - 50 sq. km. These small centers are growing by 6-12% a year due to migration from rural areas, expansion of town boundaries, and natural population growth. They usually have an administrative center, a commercial center, and housing areas for various income groups.

Economically, these small towns fulfil a crucial market and information function. In the towns, large official markets are held once or twice a week; they serve the rural hinterland and act as an intermediary between rural areas and larger cities. Levies on goods and services form a source of revenue for the town government. In the towns, wealthy citizens are usually involved in small-scale businesses while lower-income people are either employed in informal sector services, agriculture, or are unemployed.

Spatially, most small towns in Kenya have three land use patterns. There is a densely built-up but small core which often covers less than a square kilometer. The land is usually owned by the central government and/or the local authority. This core is surrounded by a belt of peri-urban settlements. Urban housing is mixed with small-scale agriculture, scattered markets and shops. Finally, there is a much wider outer zone which is used for agricultural purposes.

The critical environment-development issues in these small towns include:

- Degradation of essential natural resources - small towns are much more directly dependent on their immediate natural resource base than larger cities. Surface and groundwater pollution, deforestation, soil erosion, and reduced soil fertility have an immediate impact on the health and economic well-being of small town residents.
- Rapid growth and environmental risks - the large number of new citizens coming to small towns often settle in densely populated areas without adequate infrastructure and/or in environmentally vulnerable land such as flood-prone areas. Thus, the residents of these areas are exposed to environmental health and natural risks. Small "jua-kali" business activities have also resulted in groundwater pollution.
- Loss of amenities and quality of life - The rapid and often haphazard urbanization of peri-urban

land reduces green space and fertile agricultural land. In the core, most of the towns lack vegetative cover; thus, the area is exposed to the effects of wind, storms and sun.

Experience with Environmental Planning and Management

The Environmental and Urban Development Training Project, popularly known as the “Green Towns Project,” seeks to integrate environmental considerations into urban development in order to achieve a healthy and attractive environment capable of providing its inhabitants with basic needs. It is a partnership of the Ministry of Local Government, the Ministry of Lands and Settlements, the Government Training Institute (Mombasa), the Wageningen Agricultural University in The Netherlands, and local authorities. Towns are selected according to human resources, size, pace of growth, geographical distribution, motivation, and absence of previous donor support. While called a training program, the Project has many elements of the EPM process.

To identify and prioritize urban environmental issues, two days of a three-day Workshop on participatory environmental planning and management (PEP) are used. Facilitators of the workshop are trained by the Project. The three day PEP workshop is a stakeholder exercise that includes district and local government officials, town councillors, NGOs, community representatives, and members of the business community. During the first day, participants are shown a video of environmental problems that exist in other Kenyan towns. Participants then list their specific problems, site them on a map, identify affected groups, and discuss who is responsible for implementing solutions.

On the second day, ecological linkages between response development and the environmental issues identified during the first day are examined. A ‘problem tree’ is prepared illustrating local cause-and-effect relationships. A field trip and video are also used to further clarify linkages. At the end of the day, participants usually have a good sense of priority areas for action.

Strategies and action plans are developed during the third day of the Workshop. Participants prepare different maps that will lead them to a long-term Environmental Development Plan and short-term action plans. A video is shown to explain the planning exercise. Participants then divide into four groups, with each preparing a map. One map shows ecologically vulnerable areas that need to be protected, another shows suitable agricultural land, one map indicates areas which are suitable for urban development, and a “zero map” suggests how the town might develop without any EPM. Maps are compared in a plenary session and areas of conflict are identified. Groups are re-formed and assigned one conflict area to come up with detailed but easy-to-apply solutions. In a plenary session, the Workshop participants identify the most important, most wanted and most realistic actions. These actions, along with the maps, are put together to follow the town’s action plan. A voluntary action group is then elected.

The implementation phase begins immediately after each workshop. On the day following the Workshop, the action group and the facilitators meet to write the Workshop report and present it

to town officials. Facilitators also discuss key points with the action group: institutional relations, terms of reference, financial resources, and how to start implementation. No money is given to the action group; instead, ways of using available resources and mobilizing community support are emphasized. This process has resulted in implementation of some priority actions such as control and diversion of stormwater to protect a town's market.

Three approaches have been used to institutionalize EPM in Kenyan towns. A "Training of Trainers" program has created a central team of people equipped with the necessary skills to work across institutions and stakeholders, conduct public awareness campaigns, and carry out the training workshop along with implementation follow-up. Next, three "model towns" have been selected both to create awareness of the Project and to build the capacity of the Ministry of Local Government to implement environmentally sound development projects.

Finally, the three day PEP workshop has been developed as an easy-to-deliver package. Furthermore, in each key institution, an environmental unit is created to provide the formal institutional framework to implement the "Green Town" initiative.

Two examples where the project has been successful are Homa Bay and Kisii. In Homa Bay a major watershed improvement was undertaken. Cleaning and repair of the drainage system was done by volunteer youths. Several small contractors cleaned the main drain of the town. The town, and in particular the slum area Shauri Yako, no longer floods. Other important achievements are a general clean-up of the town and tree planting and soil conservation up hill. Currently, the "Green Town" action group is in the process of taking up small maintenance contracts organized by streets or neighborhoods carried out by the youth groups. In Kisii, action was taken against storm water flooding the major market. Up hill terraces were made, grass planted and drains dug. Door-to-door actions were held to clean the environment and to inform people. Currently the action group is preparing for a major repair of the market. A survey has shown the willingness of the residents and market sellers to contribute monthly in order to keep the road accessible, and the market clean and in good condition.

Lessons

The EPM process in Kenyan towns has differed from past efforts in several ways. A full range of stakeholders has been involved in the Workshops. A partnership between the central government, district and local authorities, and the community has been successfully created in approximately 14 towns. It is the towns themselves that identify problems and solutions which are then forwarded to the central government for assistance. Community voluntarism, present in many towns, is mobilized for environmental issues, often for the first time.

The major factors that facilitated the EPM process in the small towns include: a) sustained political support from the local authorities; b) Town Clerk involvement in the process; c)

stakeholder involvement and support; and d) the simplicity and accessibility of the training package. Factors that have hampered the process include political differences, administrative rotation of supportive Town Clerks, land tenure disputes, and limited ability to mobilize financial resources for implementation.

The key lessons learned from the EPM process in Kenyan towns are:

1. A critical mass of environmental facilitators is needed to change institutional behavior as well as to reach the clients.
2. The participatory approach can be slow, especially during implementation where additional technical and advisory support to the action group is often needed.
3. Networking with different organizations to share experiences and learn from each other is vital. It can also help to channel resources more effectively and avoid duplication of effort in towns.
4. The attempt to rely solely on local resources and voluntary implementation has its limits. External financing is often raised as an issue, and is sometimes seen as a prerequisite for implementation of priority actions.

Annex F

Urban Farming in Africa

In 1987, a study by Mazingera Institute found that almost one in three of urban households in Kenya farm crops in town.¹ The study also pointed out that while middle income earners can grow food in their backyards, low income earners lack space and farm on public land when they can find any. The average size of an urban farmer's plot in the capital, Nairobi, is small, under 100 square meters, less than a quarter of the size of those in peri-urban and satellite towns. Yet the average productivity of urban farm plots in Kenya is higher than that of rural plots, and is highest in the capital at 9,000 k/ha. In general the larger the town, the more organic inputs are used. Most urban farmers are too poor to buy fertilizers. However, the most important input is water, more easily obtainable in towns than rural areas, and used by two thirds of urban farmers in Nairobi.

The figures for urban farming are impressive, in addition to the one-third of the urban population of Kenya (approx. 1.48 mill.) In Lusaka, Zambia, e.g., the World Bank,² recently noted that 45 percent of the low-income families surveyed cultivated either their yards or gardens on the periphery of the city, and self-produced food amounts to one-third of the total food consumption of the poor in that city. Examples of urban agriculture in other cities highlight its role in natural resource conservation and waste management. In Maputo, Mozambique, the Green Zones (linear strips perpendicular to the waterfront) provide access to food, employment, water and recreation. Since 1950 the Bandia Forest in Senegal has been managed for supplying fuelwood close-by to Dakar. In Dakar, saline-tolerant crops grown along coastal floodplains prevent erosion. In Kinshasa, low-income communities created

The Story of a City Farmer

(from D. LeeSmith, *People & the Planet*, Vol. 6, 1996)

Wairimu Kinuthia, a grandmother living in a crowded squatter settlement in Nairobi is able to supplement the meagre diet of herself, her three children and one grandchild from a scrap of land, in her case from the plot on which her shack stands. She sublets one room, and in another, which is not yet finished, she keeps four goats for fattening. She also sells vegetables in the local market. Some of these she grows herself, others she buys wholesale. Her son sells secondhand clothes in the local market.

Although her plot in Korogocho is not formally owned, a council of elders allocates plots to the needy. Often this means womanheaded households, like that of Wairimu after her husband left her in 1977. Now the place is full up and there is no space for new plots, but the tenant population keeps growing as people like Wairimu sublet rooms for a living.

People who have their own plots are better off because they get income from rent but also because they have been able to find a piece of land to grow crops on. Very few people in Korogocho were there early enough to find such a space, and even that is far away, near a stadium at the edge of the city.

As the city population grows, it is harder and harder for the urban poor to find land to farm because it gets allocated to other uses. Tenants in an area like Korogocho generally eat less often. Wairimu and her family eat three times a day, but some families only eat once a day or less.

orchards that stabilize mountain slopes. In the Nairobi River floodplain, in Nairobi, slum dwellers plant fruit trees to prevent flood damage and compost household waste for farming. In Ouagadougou, urban gardeners produce green beans for export to Europe.²

The skills employed and techniques used in this case, are those developed in the rural agricultural sector, but have to be adapted for the urban environment. For example, manure is used by about one third of the urban farmers in Nairobi and about the same proportion use compost which they produce themselves, but a few exchange compost through informal barter or gift from friends. Compost is even sold on the market. Manure is also exchanged through barter or gift between livestock keepers and crop farmers in Nairobi. Other inputs like mulch and chicken droppings are used as well. Urban farmers both produce and exchange organic inputs, and the larger the town the more informal exchange in inputs there is among the community of farmers. It therefore seems the need and/or market for compost does exist in Africa and the process fits well with any small-scale waste disposal program.

Other products in the subsistence system in Nairobi include hay harvested from ditches and vacant land, firewood gleaned from unused land and building waste, refuse used for animal fodder, and traditional vegetables, which are gathered from the wild and eaten by three quarters of all households in the city. No less than 79 different varieties of such vegetables were named by residents in the capital city in the Mazingera study. These are used in cooking dishes originating from different areas, and a trade has grown up shifting them to the capital (and to other towns) to feed migrant populations. Many of these vegetables are rich in protein and resistant to disease.

The total volume of crops produced in all Kenyan towns in one season in 1985 was estimated by Mazingera Institute to be 25.2 million kg, worth about 60.9 million Kenya shillings (approximately US \$4 million at the 1985 exchange rate). The estimate for Nairobi was 11.3 million shillings per season. This is significant, especially since there are two growing seasons in a year.¹

However, just under half the urban population said they had no access to land, either rural or urban, where they could grow food. And 40 per cent of the urban farmers interviewed said they would starve if they were stopped from doing it. The urban poor have been identified as one of the groups with nutritional problems in Kenya, yet little has been done to address their needs. Urban farmers in Kenya operate entirely outside the formal system of local government, finding their own ways of feeding themselves. They do not even get the agricultural extension services that rural farmers get.¹

Yet it would be comparatively easy to incorporate crop and livestock production into urban planning, by allocating land temporarily to this use, and extending support to urban farming on road, rail, river and power line reserves, which is where the urban poor mainly farm. Such physical planning measures supported by local government services would immeasurably help the urban poor.

More improvements in productivity could well be made through more efficient use of urban surface water drainage and city refuse for example. Recognition of and planning for urban subsistence farming could support the initiatives which residents like Wairimu Kinuthia are already taking to make African cities more sustainable.

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Annex H

“Africa Inching to Renewal from Economic Stagnation”

Article by L. Duke, extracted from the Washington Post, 8/15/97

There is some good news, as reported, and based on U.S. Trade and Development Agency data and information from the recent African-American conference in Harare, Zimbabwe, that despite continued economic and political trouble on the continent, as well as structural economic problems that have yet to be solved, sub-Saharan Africa is posting new highs in economic growth rates, more economic reform and more democracy -- all of which have caused investors to consider this once marginalized continent a market worthy of their attention and money.

The trend is still fragile and new, with some of Africa's largest countries--notably the two Congos, Angola, Sudan and Nigeria -- still in political turmoil or economic straits, or both. Some analysts say there is not enough evidence to tell whether the new growth rates in Africa are a new beginning or just a blip; many concede that the rates largely reflect the fact that African economies had nowhere to go but up. But a task force sponsored by the Council on Foreign Relations urged U.S. policymakers recently to take advantage of what it called “the most promising period since the onset of African independence 40 years ago.”

The task force noted that the United States exports more to Africa than to Eastern Europe and the former Soviet republics combined, and that Africa will become increasingly important as a market because more than a third of U.S. economic growth results from exports. Africa's new openness to investment and the news of its apparent upturn have attracted heightened attention from U.S. investors, who have crammed the ballrooms and wood-paneled chambers of Washington, New York and some African capitals during a series of investment summits held in recent months, including one this spring that attracted 700 people.

And after years in which critics derided the marginalization of Africa in U.S. foreign policy calculations except in times of humanitarian crisis, the continent has received significant renewed U.S. attention. Its tentative resurgence comes at a time when Clinton administration trade officials as well as a bipartisan group in Congress have crafted legislation aimed at creating a new trade and investment policy to move Africa away from dependence on foreign aid. A recent SBC-Telkom deal (Texas-based SBC and Malaysia Telekom bought a 30% stake in Telkom S. Africa for \$1.26 billion) is among those touted in Washington as examples of the growing U.S. investment relationship with Africa.

This month, for the perusal of American investors, the U.S. Trade and Development Agency released a list of 45 big-ticket South African projects in transportation, industrial development, power generation and telecommunications that the agency said have the potential for generating \$8.2 billion in U.S. exports. The pessimism so prevalent in the past -- while still justified in some African nations

-- is giving way to a new conventional wisdom: that rumors of Africa's eternal economic ruin may have been greatly exaggerated.

"It's still fragile, it's still difficult, but for the first time there's good news coming out of Africa-and that's news," said Witney Schneidmann, senior vice president of Washington-based Samuels International Associates Inc., a consulting firm that focuses on corporate movements into Africa.

Namibian President Sam Nujoma, speaking to participants at a recent African-African American conference in Harare, Zimbabwe, seemed to suggest that an African moment was at hand. On the continent it is called an 'African renaissance,' based on a new sense of Africa's place in the world, a new kind of pragmatic leadership and a commitment to connect Africa to the global economy. In addition, more sub-Saharan African governments are elected than ever before.

"We cannot afford to fail at the point where our continent is at the threshold of success," Nujoma told the Harare audience, which included American corporate executives making pledges of investment and boasting of deals already done.

One of the clearest indicators of what Nujoma called the African threshold is the continent's upward economic trend. The 5 percent growth in its gross domestic product during 1996, while nowhere near the double-digit growth achieved during the 1980s by the "tiger" economies of Southeast Asia, marks a second year of overall growth and is the highest rate in more than a decade. Africa has become the second-fastest-growing region in the developing world, after Asia, according to Flemings Research, an arm of Flemings international investment bank.

But some analysts contend that it may be too soon to state confidently that African economies are turning a corner. They warn that African nations need sustained growth of at least 7 percent to offset an average population growth rate of 3 percent and to begin to produce enough indigenously created wealth to eradicate the poverty that still grips most of Africa's citizens. An estimated 40 percent of sub-Saharan Africa's 600 million people live on the equivalent of a dollar a day. But only in a select few countries is economic growth surpassing population growth.

The threat of political turmoil, institutionalized corruption and a track record of backsliding on reforms -- such as the subversion of reform legislation by high officials who grant special favors and exemptions to their cronies -- also suggests to some analysts that current growth levels in some countries are fragile and could easily fall.

Still, the economic growth taking place in several countries has raised eyebrows. Ethiopia and Uganda, once wracked by war and despotic mismanagement, led East Africa last year with economic growth rates of 11.9 percent and 9.4 percent, respectively, according to the World Bank. Malawi, with 16.1 percent growth, is leading the south, followed by Zimbabwe with 8.1 percent and Mozambique with 6.4 percent. South Africa remains the region's economic anchor and magnet for foreign investment though it's growth is a modest 3.3 percent. In the west, Ivory Coast grew at a 6.8 percent rate and Togo at 6 percent, and several other countries show growth at 4 percent or more.

Some of this growth was fueled by weather: Ample rains and harvests reversed the effects of recent droughts. Also, high international prices for commodities on which many African economies depend such as tea, coffee, cotton and raw materials, brought more export revenue to such places as Malawi, a tea-exporting country that is one of the continent's poorest nations.

But such short-term changes in the fortunes of African countries do not account for all the growth. Analysts point to the structural changes being made in many African economies as they crawl out from under the failed policies undertaken by heavily ideological post-independence governments. State control of economies through nationalization of mines and other enterprises and vast expenditures on padded civil services left many African nations paralyzed by debt in the 1980s, the decade of a continent-wide economic crisis.

At the same time, the end of the Cold War means that aid from and trade with the East and West will no longer be determined by a country's strategic utility in the superpower rivalry.

Some nations -- namely Ghana and Uganda -- that had economic reforms forced on them by multilateral lending agencies are now beginning to reap the benefits of macroeconomic stability and are embracing policies once deemed anathema, such as reducing public spending, balancing budgets, encouraging private sector growth and selling off state enterprises.

South Africa's emergence as the economic and political powerhouse of the continent following its 1994 transition to democracy also has helped turn the tide, as governments watch Pretoria's new economic policies develop and see them take a decidedly free-market turn.

But though South Africa's economy is the largest and most sophisticated in the region, it appears to be stagnating under the weight of social needs and state control left over from the apartheid era. Growth last year was put at only 3.3 percent, and projections say this year's rate may show a flattening. And while the collective African budget deficit fell to 2.9 percent of gross domestic product, according to the African Development Bank, South Africa maintained a relatively large deficit of 5.2 percent.

Still, because of its size, its potential and its market-oriented democratic leadership, U.S. and other investors pin great hopes on South Africa as an engine of growth in the region. Led by the United States, foreign investment in South Africa in the 12-month period ending in May was more than triple the investments made a year earlier.

U.S. officials have been aggressively promoting investment in South Africa. Commerce Secretary William Daley told a recent South African investment conference in Washington that he will lead a trade delegation to Africa early next year and that South Africa is viewed as a "launching point for exploring the other African markets that U.S. firms may have overlooked." That these markets have been overlooked is evident from the statistics Africa's share of foreign direct investment to developing countries is only 5 percent.

As important as foreign investment can be in priming economies and creating jobs and skills, domestic investment is of equal -- if not greater long-term structural value.

Yet capital accumulation and savings rates in Africa average 17 percent and have not grown since 1990; savings rates in Asia, in contrast, average about 30 percent.

The growth trend that has begun in Africa "is pushing up against the limits caused by the absence of the next step of reform, which is capital investment and savings," said Herman J. Cohen, head of the Global Coalition on Africa and a former assistant secretary of state for Africa.

African economic policies must foster higher rates of savings and investment to create local wealth, he said.

Historically, however, wealth in most African countries has been concentrated in the hands of a scant few, and access to it has been wielded as a political tool by entrenched elites.

Annex I

The Urban Challenge in National Environmental Strategies

(Extracted from Bernstein, J., Paper 012, Environmental Management Series, Envir. Dept. Papers, World Bank, Washington, DC 1995)

A review of more than 30 NEAPs carried out in 1995 by the World Bank revealed that almost all addressed the urban environment or some aspect of the urban environment to some degree. This review included many African countries (Benin, Botswana, Burkina Faso, Ghana, Guinea-Bissau, Lesotho, Madagascar, Mauritius, Nigeria, Rwanda, Sao Tome, Seychelles, Sierra Leone and Uganda).

The following are the general conclusions from this study regarding the manner in which the NEAPs' urban environmental problems were addressed:

- Most of the NEAPs reviewed indicate there is scope for more systematic analysis of urban environmental issues. Although many identify urban environmental problems as serious national environmental problems, there usually is no indication that the preparation of the NEAP involved an indepth analysis of urbanization trends in the country or the nature, extent, causes, and national significance of urban environmental problems. Moreover, the NEAPs usually do not indicate priorities among the various urban environmental issues identified.
- The urban environmental problems identified most often are inadequate solid waste management and inadequate water supply and sanitation. A number of NEAPs also address air pollution from mobile and industrial sources. Surface water pollution from both municipal and industrial sources is another problem identified in the majority of NEAPs.
- The costs of urban environmental problems are key indicators of their importance to national economics. But only a few NEAPs provide estimates of these costs.
- The health effects of urban environmental problems further demonstrate the national significance of urban environmental problems. They are documented primarily in the NEAPs that identify one or more aspects of urban environmental degradation as a key problem.
- Although an important basis for identifying appropriate actions to address environmental problems is a clear understanding of their causes, most NEAPs do not provide an analysis of the causes of urban environmental degradation. Consequently, many of the NEAPs are not as clear as they might be in identifying policies and instruments as well as the criteria used in selecting them. Moreover, many NEAPs do not identify institutional arrangements and capacity building needs for managing the urban environment, although ensuring adequate institutional capacity is a critical prerequisite to implementing environmental strategies.

Based on an assessment of the first generation of NEAPS, however, it is evident that future national environmental strategies can be improved if they take into account the following:

- The screening of national environmental issues should include a comprehensive assessment of trends in urbanization; collection of data on the number, population, and rate of growth of cities within the country; and analyses of the economic importance of cities and their nature, magnitude and costs of urban environmental problems.
- Countries need to be more rigorous in setting priorities not only among national environmental issues, but among urban environmental problems. Although priority setting is frequently based largely on political considerations, more emphasis should be placed on informing the priority setting process.
- In formulating a NEAP it is important to examine the causes of priority urban environmental problems to facilitate the identification of key actions, specifically those needed to remove pricing distortions, establish the necessary policy and legal frameworks, and establish critical financial, technical assistance, or other types of capacity building.
- In identifying priority actions to address urban environmental problems, the NEAP should specify the policies and instruments that should be adopted, the criteria used in their selection, and the specific institutional arrangements and timing for implementing them. The NEAP also should specify sector specific goals, objectives, and targets for improvement, including indicators for monitoring progress.
- In choosing instruments identify "win-win" policies first. The scope for actions that promote income growth, poverty alleviation, and environmental improvement is very large. Examples include: (1) removing subsidies that encourage excessive use of natural resources, (2) clarifying land rights to promote better management of land and investments in or provision of environmental improvements, and (3) accelerating provision of clean water, sanitation, and drainage, improvements in public transport, and the introduction of energy efficient technology.
- Where win-win situations are not applicable or immediately obvious, the choice of instruments should take into account practical, economic, and political realities. Each country will need to establish criteria upon which to base its selection. The most important criteria are: cost-effectiveness; administrative and financial feasibility; equity; and political, social, and market feasibility. Other considerations include: transparency; flexibility; and consistency with other government policies and instruments.
- Cities with populations of over 500,000 should be encouraged to develop their own urban environmental strategies focusing on city-specific priorities. The urban environmental strategy prepared at the national level should include a strategic framework for smaller cities which do not have the necessary capacity to carry out their own planning. In some cases,

urban environmental strategies and action plans can be inputs to the national environmental planning process.

Summary

The process of preparing national environmental strategies and action plans represents an opportunity for countries with increasingly scarce resources to identify priority environmental problems and formulate cost-effective solutions for reversing environmental degradation without slowing economic development. Given the importance of cities to economic development, the high costs of urban environmental degradation, and the large and everincreasing numbers of people affected, confronting urban environmental problems should emerge as a priority in a greater number of countries. Notwithstanding the deficiencies of earlier NEAPs in addressing urban environmental problems, the experience gained in their preparation and implementation can provide important lessons for improving the next generation of national environmental strategies, refinements or updates of earlier NEAPS, and country economic strategies.



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EPIQ's Purpose: EPIQ—an environmental policy and institutional strengthening Indefinite Quantity Contract (IQC)—helps decisionmakers in transitioning and developing countries analyze, develop, and implement policy options that balance economic growth with environmentally sustainable development, thereby reducing the long-term threats to the global environment. EPIQ services strengthen environmental capacity, institutions, and policies as well as assist in the development and implementation of environmentally sound strategic planning.

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