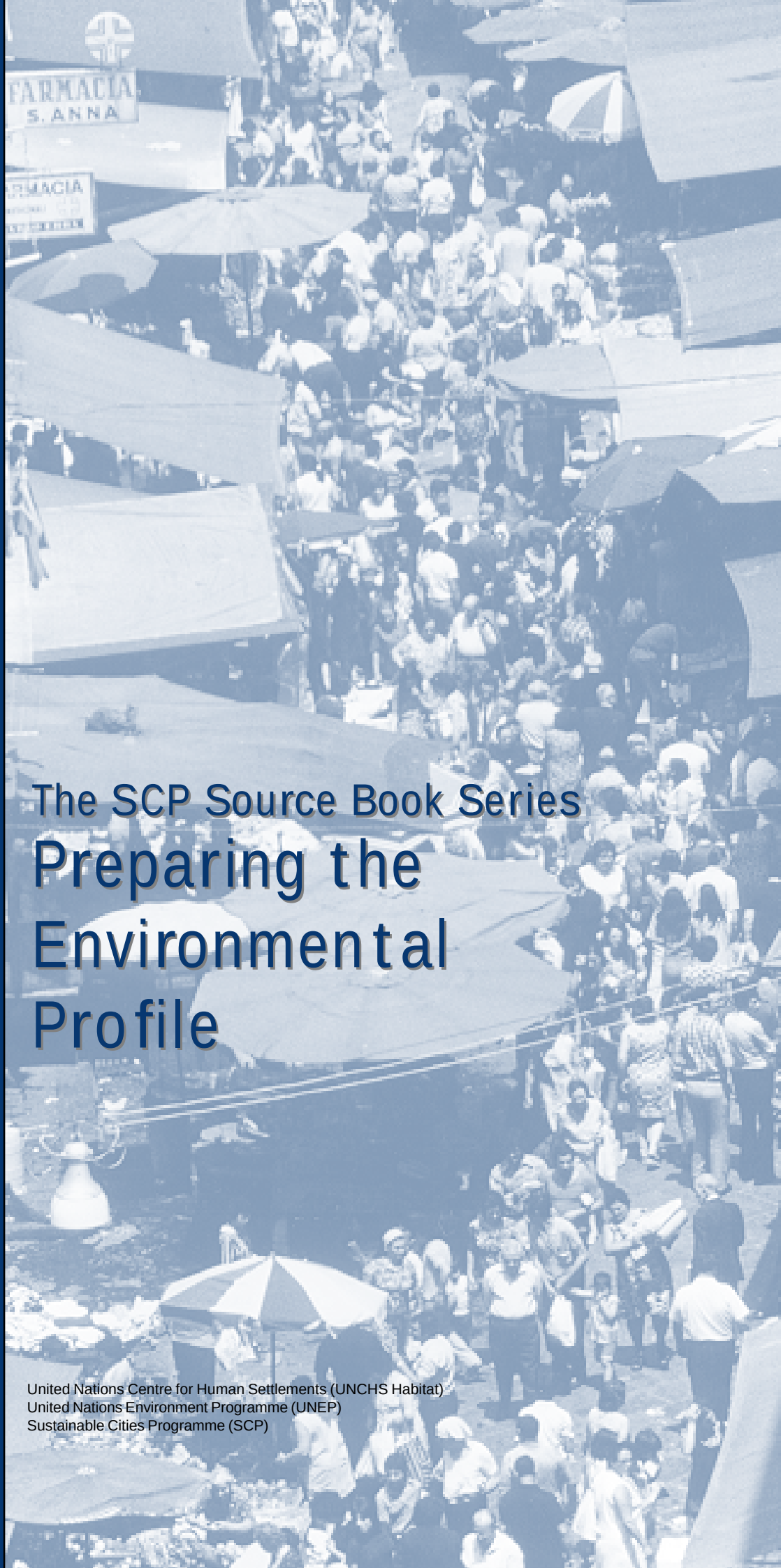
Sustainable Cities Programme (SCP)



The SCP Source Book Series

Preparing the Environmental Profile

United Nations Centre for Human Settlements (UNCHS Habitat)
United Nations Environment Programme (UNEP)
Sustainable Cities Programme (SCP)

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The SCP Source Book Series, Volume 1

Preparing the Environmental Profile

Prepared and written by staff and consultants
of the Sustainable Cities Programme

About The SCP Source Book Series

The SCP Source Book Series provides detailed operational guidance for the benefit of people implementing city-level projects within the Sustainable Cities Programme. Each volume in the Series covers either an important part of the SCP process or an important topic which is central to urban environmental planning and management. The volumes currently being produced (1999) include the following:

Volume 1: Preparing the Environmental Profile
Volume 2: Organising, Conducting and Reporting a City Consultation
Volume 3: Establishing and Supporting the Working Group Process
Volume 4: Formulating Issue-Specific Strategies and Action Plans
Volume 5: Institutionalising the EPM Process
Volume 6: Urban Air Quality Management Handbook
Volume 7: Building Environmental Management Information Systems
Volume 8: Integrating Gender Responsiveness in EPM
Volume 9: Measuring Progress in EPM

The emphasis in this Series is on **relevance** and **realism** These volumes are the *product of experience* - field-level experience gained over the past eight years in SCP city projects around the world. Precisely because it is drawn from the lessons of experience in so many different cities, the information contained in these volumes is not city-specific but can readily be adapted and applied to the tasks of urban environmental planning and management (EPM) in virtually any city context.

The Sustainable Cities Programme (SCP) is a global programme of the United Nations Centre for Human Settlements (UNCHS - Habitat) and the United Nations Environment Programme (UNEP). It is one of the leading technical cooperation programmes in the field of urban environmental planning and management and is the principal activity of the United Nations system for operationalising sustainable urban development and thus contributing to implementation of *the* globally-agreed *Agenda 21* and *Habitat Agenda*. The SCP is currently actively in the following places:
Africa: Accra (Ghana), Dakar (Senegal), Dar es Salaam (Tanzania), Ibadan (Nigeria), Lusaka (Zambia), Maputo (Mozambique), Moshi (Tanzania), Nampulo (Mozambique), Zanzibar (Tanzania)
Asia: Colombo (Sri Lanka), Chennai (India), Cagayan de Oro, Tagbilaran, and Lipa (Philippines), Shenyang (China), Wuhan (China)
Middle East: Ismailia (Egypt), Tunis (Tunisia)
Latin America: Concepcion (Chile)
Central & Eastern Europe: Katowice (Poland), Moscow (Russia), St Petersburg (Russia).

Further information about the SCP Source Book Series, or about the Sustainable Cities Programme itself, may be obtained from:
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User's Guide

This document is divided into three parts, each of which has a different purpose and a different content:

Part A
Introduction and Overview

This describes briefly the SCP Environmental Profile, explaining its role and purpose in the SCP process, and how it is prepared and used.This is a general overview which should be read by *everyone* concerned with the SCP project, including policy-makers and political leaders.

Part B
The Guide: Preparing the SCP Environmental Profile

This is the main part of the document. It gives a step-by-step explanation of how to prepare the very special type of Environmental Profile which is used in the SCP. The explanation is detailed and systematic, aimed at the professionals and practitioners who will actually be writing and updating the Environmental Profile. This part contains not only explanations and 'chapter-by-chapter' guidelines, but also special tips and practical advice based on experience in other SCP cities. Illustrations are also given, in summary form, to show how things were done in these other cities. Part B is thus intended as a reference guidebook which the SCP project staff and partners can consult over and over again as they organise, prepare and use the Environmental Profile for their own city.

Part C
Annexes and Reference Materials

To further assist those implementing the SCP project, this part of the document contains annexes of direct relevance to the process of preparing the Environmental Profile. For instance, there are sample Terms of Reference for for contributors/consultants, information about the approach taken in other SCP projects, examples of text and content, sample forms and letters, examples taken from other SCP projects, etc. This material will be of great value during the preparation process for an Environmental Profile, and will help the SCP project staff save time and energy. Relevant bibliographic resources will also be noted, as will names and addresses of useful contacts

To get the best out of this Source Book, however, users need to have a good understanding of the over-all SCP approach and process of which an Environmental Profile is only a part. It is therefore strongly advised that users familiarise themselves with the appropriate SCP documents and information.

Table of Contents

Part A : Introduction and Over-View

A1 The SCP Process
A2 Nature & Role of the Environmental Profile
A3 The Content of the Environmental Profile
A4 Using the Environmental Profile

Part B : The Guide: Preparing the SCP Environmental Profile

Introductory Note
B1 Environment-Development Interaction
B1.1 The Purpose of the EP
B1.2 The Relationships of Environment and Development
B2 Key Points about Structure and Presentation
B2.1 Target Group and Presentation Style
B2.2 The Area Covered by the EP
B2.3 Using Maps in the EP
B3 Preface, Table of Contents & Executive Summaries
B3.1 Preface
B3.2 Table of Contents
B3.3 Executive Summaries
B4 City Introduction [Chapter 1 of the EP]
B5 The Development Setting [Chapter 2 of the EP]
B5.1 The Logic of Chapter Two
B5.2 What is an Activity Sector?
B5.3 Using the Activity Sectors
B5.4 How to Write the Chapter
B6 The Environment Setting [Chapter 3 of the EP]
B6.1 The Logic of Chapter Three
B6.2 What are Environmental Resources?
B6.3 Analysing Environmental Resources
B6.4 What are Environmental Hazards?
B6.5 Analysing Environmental Hazards
B6.6 General Comments on Chapter 3
B7 The Management Setting [Chapter 4 of the EP]
B7.1 Structure and Purpose of Chapter Four
B7.2 Key Stakeholders
B7.3 Urban Management Structures and Functions
B7.4 Strengthening Urban and Environmental Management
B8 Abbreviations, Glossary, Bibliography, Annexes
B8.1 List of Abbreviations
B8.2 Glossary of Terms
B8.3 Bibliography
B8.4 Annexes to the Environmental Profile

Part C : Examples, Illustrations and Supporting Materials

C1 Glossary - Explanation of Terms
C2 Information Sources for Preparing the EP
C3 Sample Guidelines for Briefing Project Partners
C4 Sample Letter to Accompany the Environmental Profile
C5 Sample Terms of Reference for EP Preparation
C6 Extracts from Previous Environmental Profiles
C6.1 Example of Chapter 1 (City Introduction)
C6.2 Example of Description of City Management System
C7 State of the Urban Environment Report
C8 The Gobal Sustainable Cities Programme: Lessons of Experience

The SCP Source Book Series, Volume
Preparing the Environmental Profile

Part A

Introduction and Overview

A1
The SCP Process

The Sustainable Cities Programme (SCP) is a world-wide technical cooperation activity of the United Nations. It works at city level in collaboration with local partners to strengthen their capabilities for environmental planning and management (EPM). Each city-level SCP project is adapted to the particular needs, priorities, and circumstances of that city; nonetheless, all SCP city projects follow the same general approach and all are implemented through the same series of activities known as the SCP Process.

** Institutionalisation of the EPM process is described and analysed in an SCP city context. Therefore the terms 'SCP' and 'EPM' process are used interchangeably. The SCP process and its specific activities provide a concrete example of the application of the EPM process in an SCP partner city.*

The SCP recognises that cities play a vital role in social and economic development in all countries. Efficient and productive cities are essential for national economic growth and, equally, strong urban economies are essential for generating the resources needed for public and private investments in infrastructure, education and health, improved living conditions, and poverty alleviation.

Unfortunately, the development potential of cities is all too often crippled by environmental deterioration. Aside from its obvious effects on human health and well-being (especially of the poor), environmental degradation directly holds back economic development. For development achievements to be truly 'sustainable', cities must find better ways of balancing the needs and pressures of urban growth and development with the opportunities and constraints of the urban environment.

Environmental deterioration, however, is not inevitable. Although many, perhaps even most, cities are still suffering severe environmental and economic damage, there are encouraging signs. Some cities are learning how to better plan and more effectively manage the process of urban development, avoiding or alleviating environmental problems while realising the positive potentials of city growth and change. The SCP aims to support cities in finding - and managing - development paths which are more effectively fitted to their environmental opportunities and constraints.

Reflecting this background, and reflecting the special characteristics of the Sustainable Cities Programme, there is a *common approach* which is shared by all SCP cities and which holds true across the full, wide range of partner cities:

- central focus on development-environment interactions
- broad-based participation by public, private and community sector groups
- concern for inter-sectoral and inter-organisational aspects
- reliance on bottom-up and demand-led responses
- focus on process: problem-solving and getting things done
- emphasis on local capacity-building.

Similarly, there is a shared *SCP Process* which provides a general framework for city-level project implementation - a framework, moreover, which has been tested, revised, improved and evolved through experience in more than 20 different cities since 1991. The process consists of a sequence of activities which are logically and practically connected, together with a number of specific outputs which are important for the progress of the project. The

key point is that by following the SCP Process, the work of implementing an SCP city project will build an effective process of environmental planning and management which is integrated into local society and government.

Naturally, the way in which the SCP process works out *in detail* will be different from one city to another. But the *general* pattern has proved to be useful and effective in cities all across the world. Broadly speaking, there are three general 'phases' in the process of SCP project implementation.

The **First Phase** (*Assessment and Start-Up*) is a 6 to 9 month initial period which normally includes the following main activities:

- identification and mobilisation of project participants and partners
- familiarisation of project partners with the core EPM concepts and SCP approaches
- preparation of the Environmental Profile and initial identification of priority environmental issues
- review of available resources, tools, and information and initial design of geographic information systems (GIS) and environmental management information systems (EMIS) specifically adapted to the city's needs
- working out the organisational structure, work plan, and operational procedures for the project
- organising and holding the City Consultation
- establishing the Issue-Specific Working Groups.

The City Consultation is a major event which brings together the work of Phase One, consolidates social and political participation and support, and launches the SCP project into Phase Two. (Volume 2 of this SCP Source Book Series - *Organising and Running the City Consultation* - provides detailed guidance.)

The project's **Second Phase** (*Strategy & Action Planning*) is a 15 to 24 month period of intensive analysis, discussion, and negotiation within the Issue-Specific Working Groups. The number, focus, and membership of these Working Groups will change and evolve as the project proceeds, but they will remain the principal feature of the SCP Project. (See Volume 3 - *Establishing and Supporting the Working Group Process*.) During this period, each of the agreed priority issues will be further elaborated and developed, to reach a consensus on appropriate strategies for that issue. The strategies will then be developed into action plans which can be agreed by the organisations and groups involved in implementation. (See Volume 4 - *Formulating Issue-Specific Strategies and Action Plans.)*

It is likely that small-scale 'demonstration' projects will be undertaken to test the approaches developed and to show what can be done through the SCP process. In addition, some of the first action plans will produce investment and/or technical assistance proposals which will be developed into properly-formulated and 'bankable' proposals. All of these Phase Two activities of the Working Groups will be gradual, pragmatic and cooperative, reflecting the real-world conditions for strategy formulation and implementation. Finally, also during this Second Phase, the main project activities aimed at institutional capacity-building and human resource development will be carried out.

The **Third Phase** of work (*Follow-up & Consolidation*) is an open-ended follow-up and implementation period, which begins towards the end of Phase Two and carries on for an extended time afterwards. The strategies and action plans coming out of the Working Groups will be further elaborated, especially in order to build toward an over-all city-wide environmental management and urban development strategy. Investment proposals will be worked out in detail, subjected to rigorous analysis, and pursued vigorously with funding sources. The task of institutionalising the environmental planning and management (EPM) process, initiated during Phase Two, will be undertaken in earnest (see Volume 5 - *Institutionalising the EPM Process*). In addition, the remaining training and institutional development activities will be implemented. Finally, there will be regional and/or national workshops and meetings, to explore ways of extending SCP activities into other cities, building upon the experience gained in the project.

A2
Nature & Role of the Environmental Profile

The key objectives of the First Phase of the SCP project are to identify and clarify environmental issues, to involve the relevant stakeholders, and to prioritise the issues to be addressed through the project. The Environmental Profile plays a central role in achieving all these objectives. In fact, because of its crucial role, it is normally the first project activity to be undertaken.

The Environmental Profile (EP) thus has two main purposes: *first*, the EP provides a systematic over-view of the city's development activities and how they interact with the city's environmental resources; and *second*, the EP, both as a source of relevant information and through the process of its preparation, supports the process of identifying and mobilising stakeholders. Because of these purposes, the EP is organised in a very particular way (as is explained in detail in Part B of this Source Book). It is therefore vital that the specific - and unique - nature and role of the Environmental Profile in the SCP project is properly understood.

The SCP approach is based on an awareness that urban development and urban environment cannot meaningfully be dealt with in isolation from each other: city development strongly and clearly affects the environment - and environmental conditions equally strongly and clearly affect city development. It makes no sense to deal separately with things which are so intimately inter-linked, especially when the underlying purpose is to develop ways to better manage the over-all process of city growth and development.

The SCP Environmental Profile brings together information about the city's development sectors and activities, about the city's environmental resources and hazards, and about the city's management systems (the groups and organisations involved in development and environment). Crucially, the EP puts this information together in a particular way, which systematically analyses how development and environment interact, sector-by-sector and issue-by-issue. In this way, the EP not only highlights and elaborates the key environmental issues facing the city, but also puts them squarely into the appropriate development and management context. It also identifies the different groups and organisations ('stakeholders') which have important

(and often conflicting) interests in the various development activities and environmental issues.

The EP should reflect current knowledge and hence it is built upon *existing* information and data; it needs to be assembled quickly, and at low cost - there is no scope for expensive and time-consuming research. There is also no need for such research. In most cities, the relevant information is available, at least at the level of detail necessary for planning and management. Relevance and relatedness of information are important; precision and scientific certainty are *not* important.

This is a very important distinction: the SCP Environmental Profile is a working document which should be available to - and understandable by - a wide range of partners and participants; its purpose is to communicate information and ideas. The SCP Environmental Profile is *not* a research document - and creating the EP is *not* a technical or scientific exercise.

Unfortunately, the term 'Environmental Profile' is often misinterpreted. Many organisations have produced so-called Environmental Profiles, often under the influence of national or international programmes, but the majority of these are simply not useful for urban environmental management. Most of these documents, for example, only provide a survey of quantitative measures of the physical environment, of interest perhaps to scientists but of little relevance to urban managers and policy-makers. In addition, most of these documents are purely descriptive - they simply describe the current situation, usually in terms of physical measures. The SCP Environmental Profile, in contrast, focuses on information directly relevant for environmental management and is analytical rather than descriptive. The SCP Environmental Profile is indeed something different!

This difference, of course, derives from the specific role which the EP will play in the SCP project. The EP will be used frequently and repeatedly, to brief partners and participants (stakeholders) - to inform them about the city's development-environment situation and relationships. In this role, the EP will be crucial for giving all the project partners a common understanding of the development-environment context, thus providing a firm basis for the informed discussion and consultation.

The process of preparing the EP will also play a major role in helping to inform and mobilise potential stakeholders. The information and data for the EP must be drawn from a wide range of sources, and this will require an extensive programme of visits and interviews. The process of actually going to organisations and groups to solicit that information provides excellent opportunities for briefing those people and institutions about the SCP process - and about the activities of the project such as the upcoming City Consultation.

The City Consultation (a three to five day event) will make great use of the EP, especially in the preparation activities but also during the meetings, as a way of briefing the Consultation participants and informing the discussions. But the usefulness of the EP will not end there. On the contrary, it will continue to be the principal document for introducing people and organisations to the SCP project. For example, it will be an essential tool for helping the Working Groups to get going, by ensuring that all members share a common information base and viewpoint. The EP will be used intensively in this way,

for instance providing a firm foundation for the work of consultants, informing new stakeholders, and continuously helping to broaden the base of support for the project.

A3
The Content of the Environmental Profile

The Environmental Profile synthesises information, organises and analyses it in a very special way, and presents it in a form adapted for effective use in the SCP process. The main components of the EP are summarised in the diagram below and in the short text which follows it. (A much more detailed description of contents, chapter-by-chapter, is given in Part B of this Source Book.)

Remember, the EP must be a *living* document - it must communicate readily and easily to all of those who need to use it. And because of its key role in the SCP process, the EP must also follow faithfully the logic of the SCP, systematically and carefully setting out and analysing the development and environment sectors and their inter-relationships. For this reason, it is *extremely important* that the EP for your city also follow the structure and approach describer in this Source Book.

Summary Outline of the SCP Environmental Profile

CITY INTRODUCTION
a very brief introduction to the city (social, economic, physical)

DEVELOPMENT SETTING
the city's activity sectors: their characteristics, use of environmental resources, impact on environmental resources and hazards

ENVIRONMENT SETTING
the city's environmental resources and hazards, their relation to the city activity sectors, and the activity sectors' competition over resources and hazards

ENVIRONMENTAL MANAGEMENT
key actors & interest groups, urban and environmental management institutions, and over-all city management systems

The **first chapter** of the EP is a short ***City Introduction***. This should give highly summarised - and selective - introductory information about the city: geography and physical setting, social characteristics, and economy. The purpose is to provide information which is relevant and important for understanding the main chapters which follow. This first chapter includes one or two A4-sized basic maps.

The **second chapter** of the EP looks at the city's ***Development Setting***. This chapter examines environment-development relationships from the point of view of development activities. It discusses the city's 'Activity Sectors' - the development activities of the city (for example, manufacturing, mining, fisheries, transport, housing, etc.). First the main characteristics of the activity sectors in the city are briefly described. The main purpose of this chapter is to describe the *use* of environmental resources by each activity sector, in terms of *type*, *quantity* and *quality* of resources used. (For instance, local manufacturing industry may consume ground water as part of its production process and may also use waterways and the atmosphere for getting rid of wastes.) The analysis in this chapter will also examine the *impact* of each activity sector on environmental resources - and on environmental hazards. These impacts might be damaging to the quality of an environmental resource ('degradation') - such as polluting the air or polluting the local rivers. Impacts might also reduce the quantity of available resources ('depletion') - such as over-extraction of ground water. Finally, activity sectors may well have an impact on environmental hazards; for example filling in swampy land to provide building sites reduces local water absorption capacity and often has the effect of making seasonal flooding more severe and damaging.

The **third chapter** of the EP looks at the city's ***Environmental Setting*****.** This chapter considers the environment-development relationships from the point of view of the city's environment. Accordingly, in this third chapter each of the city's important 'Environment Resources' and 'Environmental Hazards' will be identified and analysed. For each environmental resource (or hazard), the use of that resource by all the different activity sectors will be brought together so the total use of that resource can be assessed. Similarly, all of the various impacts (qualitative and quantitative) on that resource (or hazard) from the different activity sectors will be synthesised.

This synthesis will highlight conflicts of interest over particular resources (or hazards). An obvious - and all too common - example is urban lakes: many people, especially the poor, use the lake waters for drinking and washing; the lake may also support a local fishing sector; but at the same time, the city's sewerage may be discharged (untreated or partially treated) into the lake; and even more damaging, industries may use the lake as a convenient way to get rid of their wastes, chemical or biological. Such multiple and directly conflicting uses identify the lake as a key point of concern for urban environmental management.

The **fourth chapter** of the EP examines the ***Environmental Management Setting*** of the city - the political, social, administrative, and managerial organisations and activities which determine how the city deals with its environment/development issues identified in Chapters 2 and 3. Chapter 4 is divided into three main sections:

- **Section A** identifies the *key local actors and interest groups* - the people and organisations which have important relationships with activity sectors and/or with environmental resources and hazards; collectively, they are called 'stakeholders'.

- **Section B** identifies the *institutions* directly involved in managing urban development and urban environment, especially (but not exclusively) those in the public sector, and explains how they work. This section focuses attention on three key functions of management: (i) information and expertise, (ii) policy formulation and coordination; and (iii) policy implementation.

- **Section C** looks at how the city's over-all *environmental management system* is operating with respect to the key development/environment issues identified in Chapters 2 and 3, with particular emphasis on current initiatives or innovations designed to improve the city's ability to deal with those issues.

Finally, statistical tables, detailed maps, graphs and charts, and other supporting technical information will be included as **Annexes**.

A4
Using the Environmental Profile

As previously emphasised, the Environmental Profile is a *working* and *living* document: it should be widely and freely available. Indeed, a systematic distribution of the EP should be undertaken as soon as it is completed; the list of stakeholders identified in Chapter 4 of the EP is a good starting point. Clearly, if the EP is to function effectively as a common information base about environmental management in the city, it must be accessible to and read by as many people as possible.

The SCP Project Team, together with the Working Groups, will naturally be the most intensive users of the EP; everyone on the team should have a personal reference copy - and each person should become quite familiar with its contents. During the course of implementing the SCP project, the Project Team will make constant use of the EP.

To make it useable to a wider audience, however, the EP should not only be physically accessible, but it should also be written in a jargon-free and readily-understandable style. It should be technically competent and complete, of course, but in presentation it should be aimed at 'the intelligent layman' - containing the important technical information but presented in a clear and comprehensible manner

Ideally, the EP should be completed and available *before* the City Consultation, so it can be used by all of those preparing and participating in the Consultation. In this way, the discussions at the Consultation will be properly informed and will be unified by the common starting points established in the EP. Since preparation of the EP is a major task which can be time-consuming, some cities have not been able to completely finish the EP before conducting their City Consultation. In these cases the EP can be

distributed in an Annotated Version (Step 2 in preparing the EP, see the Terms of Reference for Preparing the EP in the Annexes) and finished after the City Consultation.

During the Second Phase of the SCP project, the key activities will be undertaken through the Issue-Specific Working Groups. Every member of every Working Group should have a copy of the EP to hand, and it should constitute the shared information base. As the Working Groups proceed, they typically involve an ever-widening circle of 'stakeholders' - and these too should be provided with copies of the EP, to ensure that they share the common starting point.

It is also important to regularly *up-date* the EP, preferably every two years or less, and to develop a mechanism for this which is suitable for the given administrative and city context. The process of up-dating should focus on: (a) filling in any 'gaps' which remained in the previous version; (b) incorporating more up-to-date information which may be available; and (c) strengthening the analysis contained in the EP. Cities have found different ways to distribute updated EP texts. Some distributed the EP in a loose binder, and periodic updates were issued which could be slotted in. Other cities produced and distributed new EPs every two years or so. Another option is to prepare an annual or biennial 'update' of the EP in the form of a *State of the Urban Environment Report*. All new information that becomes available and a record of achievements can be combined in this well illustrated, professionally laid out 'popular' update.

In most cases, the *State of the Urban Environment Report* will need to be translated into the most appropriate local language, thus becoming the primary document for informing the general public. It should be a short document, both for ease of reading and to simplify large-scale duplication and distribution. For example, it can be distributed annually to the City Council, to provide a background for discussion on the important Environment-Development issues and the progress of the city project. Equally, it can provide the basis for wider dissemination through local radio and television and newspapers, all of which should be given copies on an annual basis.

Part B

The Guide: Preparing the Environmental Profile

Introductory Note

As an aid to the reader, a number of symbols are used at various points in the text. These are placed in the left margin and call attention to particular points or topics being discussed in the main text. These symbols are as follows:

The text next to this symbol discusses the detailed content of the chapter - that is, the information which should be included in this particular chapter of the EP

!!

The exclamation marks signal a warning: these are difficult points or topics, and special care should be taken to get it right. (These danger areas are based on difficulties experienced in other SCP cities)

This indicates 'useful tips' - helpful guidance which is usually based on the experiences of other SCP cities

This symbol indicates that additional details or examples are included in one of the Annexes in Part C of this Source Book

At this point there is a discussion of the number of pages which this chapter or section of the EP should have

B1
Environment-Development Interaction

B1.1 Purpose of the Environmental Profile

As emphasised in section A2, the Environmental Profile has two types of objective: those related to the SCP **process** and those related to the **content** of the EP itself.

Objectives of the Environmental Profile	
Process Objectives of the EP:	▪ to help identify key actors and institutions ('stakeholders') ▪ to actively involve stakeholders in the information gathering process ▪ to increase the awareness of participants about the SCP process and concepts
Content Objectives of the EP:	▪ to establish a common information base for all SCP participants ▪ to provide an understanding of how the SCP approach works in the local development and environment context ▪ to identify key environmental issues and their management implications

To reach these objectives, the Environmental Profile is organised in a very special way, as was briefly described in section A3. Thus, the key organising principle of the EP (and of the SCP over-all) is to focus on the **inter-relationships of urban environment and urban development**, which will systematically create a realistic local context for environmental planning and management.

B1.2 The Relationships of Environment and Development

Life in cities depends upon a wide variety of development activities (which we call activity sectors): industry, commerce, transportation, construction, households, etc. These activity sectors depend vitally upon the availability of environmental resources (land, water, air, ecological systems) because development activities *use* resources: they consume water, build on land, extract minerals, etc. However, development activities may also *damage* resources: pollute water and air, disrupt ecological systems, remove earth and rock, etc. Each activity sector will have its own pattern of *use* of environmental resources - and its own particular pattern of *impact* on environmental resources.

In **Chapter 2** of the EP, each of the city's important activity sectors will be analysed in precisely this manner. The nature and scale of each activity

sectors' use of the different environmental resources will be identified and assessed. In addition, the nature and significance of that sector's pollution and other impacts on each of the environmental resources will be examined. This is the equivalent of looking across one of the rows in the Environment-Development Interaction matrix shown below.

These linkages will also be examined from the other side - from the view point of environmental resources (and hazards). In **Chapter 3** of the EP, each of the city's major environmental resources (and hazards) will be analysed in a similar way. For each resource, the total use by all the various development sectors will be assessed. In addition, for each resource the nature and scale of total impact (pollution, etc) from the city's development sectors will be analysed. Doing this is the equivalent of looking down one of the columns in the Environment-Development Interaction matrix shown below.

Environment-Development Interaction Matrix

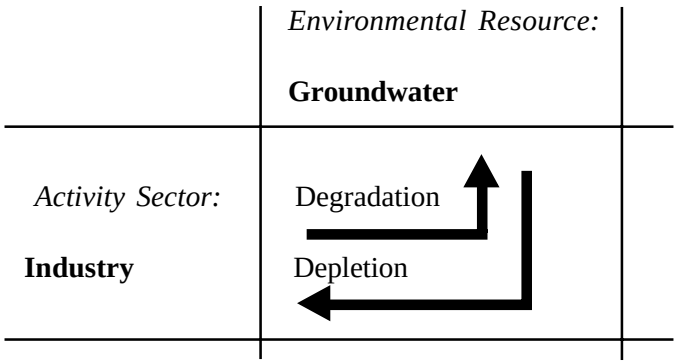
E N V I R O N M E N T

D E V E L O P M E N T	Resource A	Resource B	Resource C	etc...	
Activity Sector A					*EP para 2.1*
Activity Sector B					*EP para 2.2*
Activity Sector C					*EP para 2.3*
etc...					*etc...*
	EP para 3.1	*EP para 3.2*	*Ep para 3.3*	*etc...*	

Doing the analysis in this way provides the understanding which is essential for realistic and effective urban environmental management. It very usefully highlights the environment-development linkages at the level of individual development sectors and individual environmental resources - which is typically the level at which action has to take place. But it also allows these individual impacts to be added up, to better understand the over-all relationships and the total use in the city.

All natural systems have a certain ability to cope with use and even abuse. For example, if water is drawn out of an underground aquifer at a rate which is equal to or less than the natural recharge from rainfall and other sources, then that water extraction is said to be sustainable. If ground water is being extracted faster than it is being replenished - a common situation in

many cities - then that resource is being **depleted** and that rate of extraction is ***not sustainable***. Similarly, if a small amount of pollution finds its way into the ground water system, natural biochemical systems are sufficient to break down the pollutants and effectively cleanse the water. However, if the amounts of pollutants are too great, then the quality of the ground water will be **degraded**: the water may be so damaged that it can no longer be used for human consumption. Sadly, development activities in most cities are causing both depletion *and* degradation of many key environmental resources. In these cases, city development is clearly ***not sustainable.***



It is a hard but inescapable fact that our vital environmental resources are both limited in quantity and easily liable to deterioration in quality. These resources are valuable, however, and are needed as inputs to a wide range of urban activities. So without careful management, the use and abuse of resources by individual activity sectors will add up to a serious and rapid over-all depletion and degradation of those resources.

When natural systems cannot keep up with degradation and depletion, this has all sorts of effects such as the effects on human health (diseases and epidemics) and on the availability of vital resources for humans (clean air and drinking water, for example), but also social and economic effects (unplanned settlements, increasing prices for basic resources and services, an unattractive investment climate, etc).

Chapter 3 of the EP will also deal with environmental **hazards**, which have important linkages with activity sectors. By environmental hazards we mean such things as flooding, earthquakes, volcanoes, land slides, cyclones. - and also technological hazards like potential toxic chemical leaks, explosions, etc. Obviously, hazards can directly affect activity sectors - for example an earthquake destroying buildings. But activity sectors can have important impact on hazards as well, or at least upon the severity and extent of damage. For instance, when housing (usually for the poor) spreads to steeply sloping sites, the danger of land-slips is vastly increased. Draining swamps and filling surface water bodies (usually to acquire building sites) reduces the absorptive capacity of the city's water system and means that rains which previously caused no damage begin to result in serious floods. The analytical structure of the EP allows us to better understand these crucial linkages.

One of the great advantages of the EP's systematic examination of development activities and their interaction with environmental resources and hazards is that it helps to identify and understand the key areas of

competition and conflict. For example, in cities with lakes there is almost always conflict between potential uses: as a source of industrial water, as a source for drinking water, for disposing of liquid wastes, for washing and sanitation, for fishing, for tourism and recreation, etc. In the absence of sensible management and policy, it is typically the most damaging use which wins out, gradually driving away other users and, in most cases, ultimately destroying the resource itself.

Competition and conflict are inevitable in the real world - because there is always limited resource availability; urban environmental management must take this reality into account if it is to be successful. For this reason, **Chapter 4** of the Environmental Profile looks at the many different stakeholders in the city and how their actions inter-relate and fit into the over-all picture of environmental management.

B2
Key Points about Structure & Presentation

B2.1 Target Group and Presentation Style.

The intended readers of the Environmental Profile - the *target group* - includes the full range of stakeholders in the city: all of those persons, groups, and organisations which have an important stake in urban environmental management. This will include, for example: political leaders, local government officials, business people, local community leaders, university and college researchers and teachers, media persons, members of Community Based Organisations (CBOs) and Non-Government Organisations (NGOs), the scientific community, and ordinary citizens. In addition, the EP will of course be used intensively and regularly by all the members of the various Issue Working Groups as well as by the Project Team.

It must therefore be readable and comprehensible for them all

Because it must communicate its message quickly and effectively, it is extremely important for the EP to be written in clear, straight-forward language. Equally important, the EP must organise and present its information in a clearly structured, easily-followed sequence, using plenty of summary tables, simplified maps, and charts to supplement the text. Finally, the EP must present its information *selectively* and in summary form. Indeed, one of the most common failings in previous EPs has been to include far too much information, so that the EP becomes too long and too full; this discourages people from trying to read the EP, and makes it very difficult for those who do try to get through it.

You must keep the EP short and free of unnecessary detail

One of the most difficult writing tasks for professionally-trained people is to present their material without using *jargon* - without using the complicated and specialised words and phrases which are everyday practice among those working in a particular profession. Unfortunately, technical jargon tends to discourage other readers and make the information inaccessible and

incomprehensible. In any case, the EP is not a scientific or technical treatise - it is an information document which is addressed to a very diverse audience. A successful EP must be therefore written in clear and readable language, avoiding complicated words and complex sentence structure. Short paragraphs, each focussed on one main point, should be the rule. The authors should strive for a presentation style which is journalistic but not simplistic.

As emphasised earlier, the key principle for writing the EP should be *selectivity*: presenting the main points but without excessive detail and elaboration. Present the evidence which is important for the main line of argument, but only that evidence. Resist the temptation to add more and more information, because usually in such cases 'more is less' - past a certain point, more information simply leads to less communication! The logical structure of the EP itself focuses attention on the main points, and if the authors follow closely the guidelines given in this Source Book, they will be less likely to include unnecessary information.

Pointers for Presentation of the EP

Avoid Technical Jargon
- use clear, everyday words
- keep technical descriptions to a minimum (they can often be put into an Annex)
- if technical descriptions are unavoidable, explain them carefully using normal words and terms

Use a Clear Writing Style
- aim for a journalistic approach
- use short sentences and short paragraphs
- always ask yourself, 'Is my meaning clear?'

Keep the Presentation Simple and Uncomplicated
- avoid complicated and elaborate explanations
- make the arguments and explanations simple and short
- ask yourself 'Can I say the same thing in less complicated language?'

Be Selective - and Clearly Focused
- include only the most important information in the text
- details and supporting information should go to Annexes
- avoid the temptation to include too much details

Simplify by Using Summaries, Graphics, Tables, & Maps
- summaries (including boxes) are useful ways to emphasise key points while minimising text
- summary tables of statistics, simplified maps, and other graphics can be important ways of clarifying things and presenting information in an easily-understood way
- tables (when clearly presented) are much more efficient than text for presentation of numbers and statistics

The presentation in the EP can also be clarified and simplified by the careful use of tables, charts, maps, summaries, and graphics. It is often possible, for example, to communicate important statistical information by using summary tables. (Tables in the text of the EP should always be in summary form; if necessary, the full statistical details can be given in an Annex.)

Small boxes to highlight important information, given in the form of 'key points' for instance, can be very helpful (like the example above).

Finally, it is valuable to pay close attention to the **physical lay-out** of the document: the way in which the text is printed, organised on the page, combined with graphics, etc. An attractive lay-out will encourage people to read the EP - and will make it easier for them to continue reading it and to properly comprehend it. Among the important points to consider are the following:

- use a large and clear font (type-face) to enhance readability; modern styles such as Arial, Universe, and Helvetica are recommended, as are Palatino or Times Roman for traditional styles; avoid cramped fonts (such as courier) and fancy or elaborate fonts which are not easy to read;
- use a line spacing of 1.1 or 1.2, to 'open up' the text and make it easier to read; a cramped spacing of 1.0 can be tiring on the eyes;
- use professional features, such as headers and footers and proper page numbering, to make the document more user-friendly;
- use bold and italics and underlining to provide emphasis and to highlight particular key words or phrases, and use bullets to emphasise lists;
- do not put too much text on a page - try to 'open up' the physical appearance so that it is neat, attractive, and comprehensible; large blocks of unbroken text are difficult to read and are uninviting to the reader;
- use graphics, maps and other illustrations, including where possible photographs, although these will have to be black-and-white and preferably screened so that they can be photocopied satisfactorily.

B2.2 The Area Covered by the EP

A question is sometimes raised about the geographical area to be covered in the Environmental Profile. As a general rule, the area defined in the original project agreement should be used. This might be a single city (Moscow), or a main city plus the surrounding metropolitan area (as in Chennai, India), or a group of cities (the Katowice Agglomeration, Poland), or some other pattern. Whatever it may be, the general point remains: the EP should cover the area of the political unit or units which are responsible for implementing the project.

However, there are two additional criteria for the area to be covered by the EP. *First*, it is important that the information in the EP is given *separately* for all the different political units or sub-units which are important in the metropolitan area. For example, in the Katowice Agglomeration there are 13 member municipalities of the Union which is the implementing body for the project; information in the Katowice EP should be presented, therefore, for the individual municipalities as well as for the total agglomeration. For a different example, consider Shenyang (China); the political unit is very extensive, encompassing the central city, the suburbs, and a large amount of surrounding countryside and villages. To be meaningful, the EP information for Shenyang needs to be separately shown for the relevant sub-units as well as for the total municipality.

Second, because of the close linkages between urban areas and their surrounding regions (especially in terms of environmental pollution and resources), it is important to include - at least for the relevant environmental issues - information about the wider metropolitan or urban region. For instance, natural watersheds seldom match political boundaries. It may be that floods (or water shortages) which affect a city have their origins in actions (deforestation, diversion of rivers for irrigation) which are well outside the city's boundaries. Or it may be that a city's water-borne pollution flows right away into another political jurisdiction. This does not mean the problem goes away - it simply means the city's pollution problem is passed on to those living down-stream. Any sensible action to deal with such problems would clearly have to include some consideration of the area outside the political boundary of the city.

B2.3 Using Maps in the EP

Maps are very helpful for showing basic information about a city. A well-presented map can quickly and clearly indicate the nature and location of key development or environmental problems, showing where they exist or are most severe. Equally, it is often crucial to understand how environmental issues relate to one another in terms of location; for example, if areas without proper sanitation are also areas with poor drainage - and are liable to seasonal flooding as well - this shows that action to solve the problems must deal with all of the issues which exist in the same location. This kind of situation can sensibly be analysed and communicated only with the use of maps.

Maps are particularly useful for summarising information which cannot be effectively explained in text. For instance, to describe the location of industry in the metropolitan area, and to describe the types and extent of industrial pollution originating from different locations, would be difficult - and clumsy - to do in words. A clearly drawn and well-organised map can convey all of that information, simply and understandably.

Maps, therefore, are an essential communication tool, and every EP should incorporate a number of well-designed maps.

In Chapter 1 of the EP (the City Introduction), a *simple base map* should be presented, to give a general geographical context to the discussion about the city. This map should then be used as a base for all of the issue- or topic-specific maps which follow. That is, the information in other maps should be, in most cases, simply superimposed upon the original base map. This is important, for it will allow the maps to be readily compared with one another, helping the reader to key in on particular features or locations (e.g. rivers, coast-line, main roads, railways, main political/administrative boundaries, etc.) which are the same in all the maps.

The base map scale should be chosen so that the main geographical area of concern can be shown clearly on a single A4-sized map; most of the maps in the EP should remain at this scale. In addition, however, it may be necessary to use a few maps showing a larger area, for instance to show linkages to a bigger region (e.g. water-sheds, or drainage areas). Equally, it may be necessary to use maps showing smaller areas - such as particular parts of a city - in which more detail is given. When small-area maps are

used, there should always be a reduced base map to show where the small area is located in the larger area.

In the later sections of Part B, which discuss in detail the contents of Chapters 1, 2 and 3 of the Environmental Profile, there will be an explanation of what types of maps are most suitable in each chapter. In general, however, in Chapter 1 (City Introduction) maps will be needed to show the geographical setting of the city and of its situation. In Chapter 2 (Development Setting) maps will be used to show the location and distribution of the main development activity sectors. And in Chapter 3 (Environment Setting) maps will show the location and use of environmental resources, hazards, and issues.

In reality, there is often a great shortage of suitable maps available to the project team when preparing the EP. It is rare to find maps which are suitable for the specific needs of the EP. Specialist maps in particular (e.g. soil maps or geological maps) are usually in the wrong scale, with inappropriate detail, and not suitable for direct use in the EP. The team will probably have limited map-making skills and resources; but they must still do the best they can to assemble and, especially, to adapt and revise existing maps - or even prepare new maps by themselves. To do this, they can use existing map information and resources, often most readily available from a town planning department or even from a local university. But the adaptation of maps to suit the specific needs of the EP is something which will remain the responsibility of the SCP team.

For maps to be truly useful, those preparing the EP must be quite careful and sensible in the selection, design and preparation of maps. All maps used in the EP should be simple maps, each focused on one topic and displaying only one type of information. Maps should always be linked to the text: the information on the maps should support, explain, illustrate or elaborate on the points being made in the text.

All maps should be clearly labelled, so that the purpose and scope of the map is immediately visible. Each map should have a simple but complete 'legend' - that is, an explanation of the meaning of the various symbols or markings which are put on the map. It is this legend which makes the information on the map sensible and useable.

For ease of reproduction maps should be in black and white, of a clarity which can easily be reproduced by photocopy without losing readability. Coloured maps are not only expensive to prepare in the originals, but they are difficult and expensive to reproduce. Maps with closely-drawn detail, or with many shades of grey, tend to be difficult to read and reproduce. When faced with a choice of more or less detail to be included in a map, it is usually wise to go for less.

!! Unfortunately, maps have been rather a weak point in many of the earlier EPs. Learning from that experience, it is possible to identify some of the more common mistakes which should be avoided when preparing maps for an EP; this is shown in the following box:

Mapping Mistakes to Avoid

Putting too much information on a single map

- maps become confusing, difficult to read and less informative when too much is put onto a single map
- each map should focus on one topic or subject
- too much detail hides the key points which the map should make clear
- it usually makes maps difficult to reproduce clearly

Inconsistency in scale

- different scales confuse readers and make it difficult to interpret maps
- inconsistent scale also makes it impossible to over-lay maps and compare information

Inadequate legends and explanations

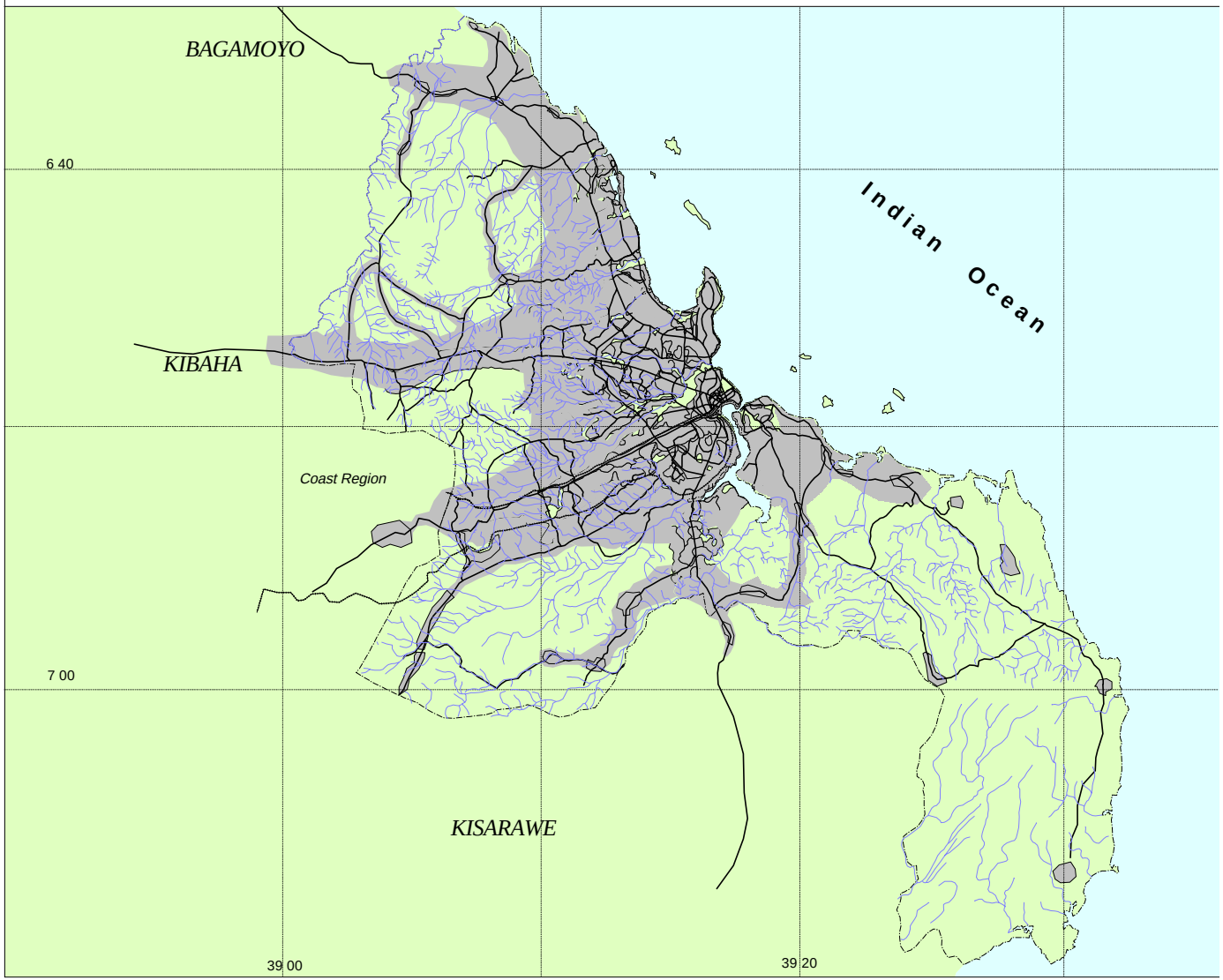
- poor legends and explanations of map symbols make the maps difficult to interpret and understand

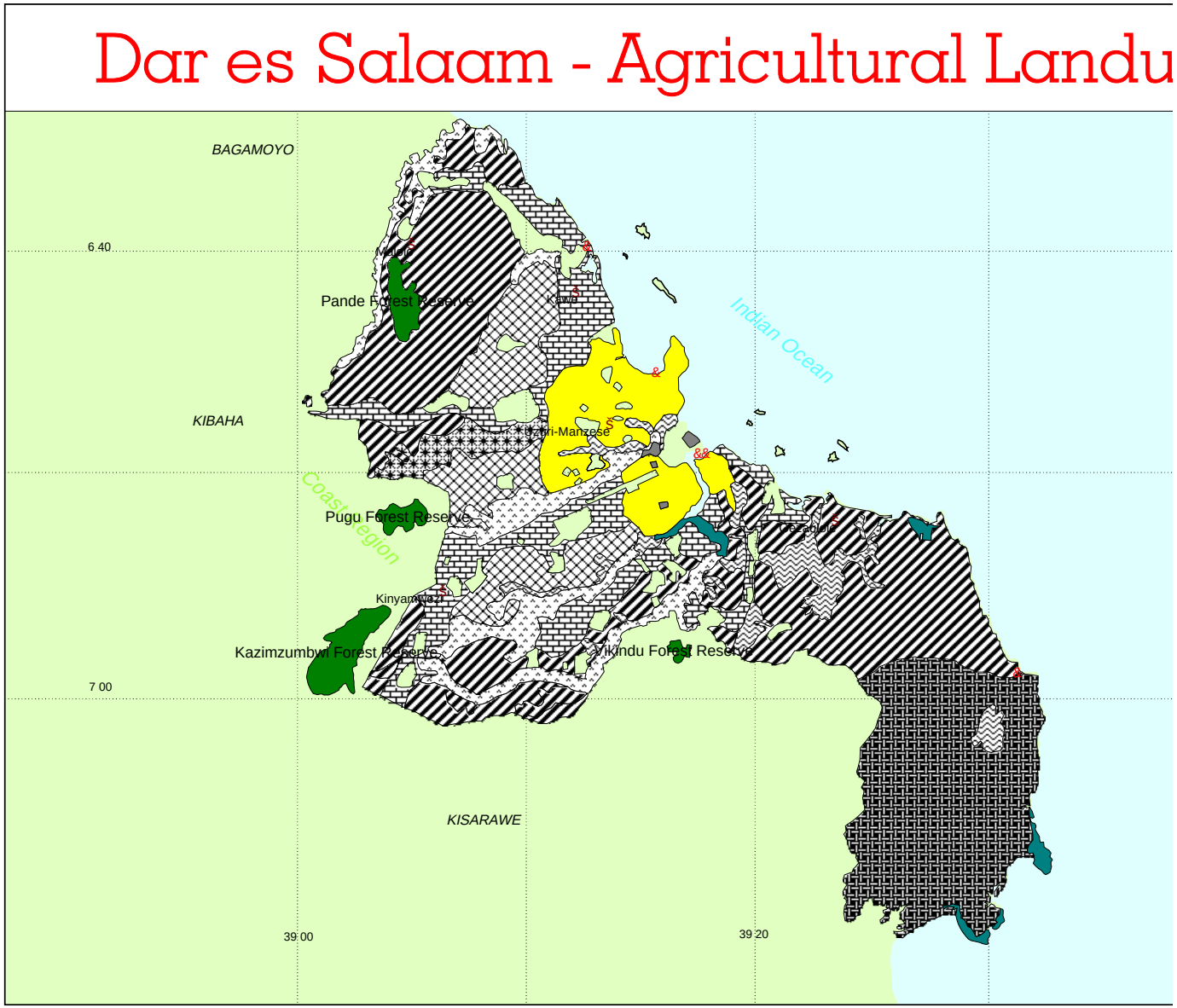
Non-standard size maps (fold-outs, etc)

- sizes other than A4 are difficult to bind together with the main text and greatly increase cost of reproduction

Aware of the difficulties which mapping often presents to the local project team, the SCP core team (of UNCHS/UNEP) has been working together with SCP partner cities to improve their environmental information including mapping (using Geographic Information Systems [GIS] technologies). In support of this, the SCP is preparing an Environmental Management Information System (EMIS) Source Book. The EMIS Source Book provides direct support to local project teams: introducing the logic behind mapping, explaining how to produce and use maps, and showing how to proceed from maps to a broader geographic information system. Simplified computer-based mapping techniques for the SCP process in general (usually starting with the EP) are also being developed and test-applied. Although work is continuing, this tool has been made available - with specialist technical support - to partner cities since mid-1998.

Dar es Salaam - Base Map




Dar es Salaam - Agricultural Landu
BAGAMOYO
6 40
Mlalo
Pande Forest Reserve
Kawe
Indian Ocean
KIBAHA
Uzuri-Manzese
Coast Region
Pugu Forest Reserve
Kinyamwezi
Kazimzumbwi Forest Reserve
Vikindu Forest Reserv
7 00
KISARAWE
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B3
Preface and Table of Contents

B3.1 Preface

The Preface introduces the Environmental Profile. It should give the reader a quick general idea about the information that is included in the EP and about how this information has been organised and presented. It should give the reader an idea of what the EP is - and what it is for.

Thus, the Preface should include - very briefly - the following information:

- the nature of the EP, and its general role in the over-all SCP process
- the objectives, intended audience, and intended use of the EP
- the structure of the EP, in terms of the general contents of the four main chapters

!! Remember - the Preface is to *introduce* the Environmental Profile; it is not the place for substantial or detailed information. Also, the Preface is not the place for summarising the EP - there is a separate Executive Summary for that purpose. The Preface must be kept short and simple.

The total length of the Preface should be no more than 2 pages. This is a tight limit, but it is necessary. Only by keeping to such a limit can the Preface properly perform its function - which is simply to introduce the EP as a document.

At the end of the Preface there should be a section of *acknowledgements* in which those persons and organisations who assisted with preparing the EP should be listed and thanked for their cooperation and contribution. The list should be as complete as possible, covering all those who were consulted or who assisted with the data gathering and information preparation. In addition to simple courtesy, this is important for two reasons: first, it shows that a wide range of people (stakeholders) were actively involved in the EP preparation process; and second, it helps those people feel a sense of commitment towards the EP and the whole SCP process.

If there are many different people and organisations to be acknowledged, this section may be too long to be included together with the Preface. In this case, it is suitable to create a separate section entitled 'Acknowledgements'; which should be placed immediately after the Preface.

When the Environmental Profile is distributed, you should always attach *a covering letter* explaining what it is, even if this means repeating information that is already included in the Preface. The cover letter, like the Preface, has to quickly tell the reader what the EP is all about and indicate why the document is important and why it should be carefully examined. (An example of a covering letter is included in the annexes, in section C4)

B3.2 Table of Contents

The Table of Contents should give a clear over-view of the whole EP. All of the main components should be clearly labelled and identified, allowing the reader to find any topic at a glance.

The main sections and sub-sections of the EP (and of the Table of Contents) will be the same for every SCP project city. However, the detailed contents will likely be somewhat different from city to city. Most cities will have fairly similar lists of activity sectors in Chapter Two, for instance, although there will be variation (some cities may have important fisheries and informal sectors and other cities may have none at all). There will be greater differences in Chapter 3 as resources and hazards differ according to city.

A sample Table of Contents is given below, as guidance.

Example of Environmental Profile Table of Contents

Preface
Acknowledgements
Table of Contents
Executive Summary - English
Executive Summary - Local Language

Chapter 1. City Introduction
1.1 Key Physical Features & Characteristics
1.2 Main Features of City Development
1.3 Population Characteristics
1.4 Economic Structure and Activities
1.5 Social Aspects
1.6 Administrative Aspects

Chapter 2. The Development Setting
2.1 Manufacturing Industries
2.2 Construction
2.3 Energy
2.4 Mining & Minerals Extraction
2.5 Agriculture & Forestry
2.6 Fisheries
2.8 Transportation and Telecommunication
2.9 Housing
2.10 Tourism & Recreation
2.11 Parks, Open Spaces & Natural Areas
2.12 Education & Health
2.13 Water Utilities (water supply, drainage, liquid waste)
2.14 Solid Waste Management
2.15 Informal Sector

.../more

Example of Environmental Profile Table of Contents, cont'd

Chapter 3. The Environment Setting

Urban Environmental Resources

3.1 Water
- surface water
- ground water and aquifers
- coastal seas

3.2 Air

3.3 Land
- for urban construction
- for agriculture
- minerals, aggregates & related
- forests & natural vegetation
- wildlife areas & special ecologies

3.4 Cultural & Historic Heritage

Urban Environmental Hazards

3.5 Flooding

3.6 Land slides, subsidence

3.7 Earthquakes

3.8 Industrial Risks

Chapter 4. The Management Setting

4.1 Key Stakeholders
- Public Sector
- Community Sector
- Private Sector

4.2 Urban Management Structures & Functioning
- Organisation & Structure, Over-all
- Information and Expertise
- Policy Formulation
- Policy Implementation

4.3 Strengthening Urban & Environmental Management

List of Abbreviations
Glossary of Terms
Bibliography
Contact Names and Addresses

Annexes:

Annex A: Statistical Tables on City Population and Economy
Annex B: List of Major Industries
Annex C: Detailed Information on Water Supply System
Annex D: Organisational Charts, City Government
Annex E: Supplementary Maps

B3.3 Executive Summaries

The Executive Summary is a concise summary of the whole Environmental Profile; it picks up the key points from each of the four main Chapters and presents them in simplified form. Its purpose is to provide a quickly-read and easily-understood over-view of the whole EP. The Executive Summary must therefore be quite short (a maximum of four pages) as well as very carefully and clearly written.

The Executive Summary is intended for a broader audience than is the EP as a whole. The likely readers of the Executive Summary would include, for example, mayors, councillors, department heads, media people, community groups and NGOs, private sector leaders, etc. It is aimed at people who have neither the time nor the technical background to read through the whole EP. In other words, it is aimed at people who need to know something about the EP - generally speaking, what it is and what are its main conclusions - but who do not need to know the details of the document.

Writing an effective and clear Executive Summary is a very difficult and time-consuming task. It can only be written once the EP main text is finished; and it is common that the Executive Summary needs to be revised and re-written several times before it is satisfactory. The information must be laid out in the proper sequence, following the logic and structure of the EP itself; the logic of the activity sector and environmental resource/hazards framework must be made clear. The main points need to be highlighted, but without explanatory detail and without justification or argumentation. An Executive Summary normally has only text: no maps or tables.

In meeting the strict page limit, you will have to be very selective. Always ask yourself, “What are the few key points that I wish this person to understand?”

Finally, if the local language is not the same as the language in which the EP is written, it is advisable to add a summary in the local language. This would mean that two Executive Summaries are included, one in the language the EP is written in, and the other in the local language. This makes it accessible to the greatest number of potential readers; and being only a four-page summary, it is not a difficult task to translate it. Including the Executive Summary in two languages should also be done if the EP as a whole is going to be translated and produced in two languages (as was done, for instance, in China); in this case, each version should have an Executive Summary in both languages.

B 4
City Introduction (Chapter 1 of the EP)

The City Introduction (Chapter 1 of the EP) should provide summary background information which is important for understanding the main chapters which follow. Information presented in the City Introduction must therefore be highly selective and tightly focussed on providing a context for discussions in Chapters 2, 3, and 4.

The City Introduction will normally organise its summary information under the following broad headings:

1.1 Key Physical Characteristics
1.2 Main Features of City Development
1.3 Population Characteristics;
1.4 Economic Structure & Employment;
1.5 Social Aspects
1.6 Administrative Aspects.

The section on *Key Physical Characteristics* will typically include information about location, geography and topography, physical ecology, and climate, for instance. But only information which is really essential for understanding urban development and urban environment should be included. For example, the aspects of climate which are important (such as rainfall patterns) can be described in one or two sentences.

The section on *Main Features of City Development* can give a very brief historical background - but focussed only on aspects important for understanding how the city has developed and is developing. (A common mistake in EPs is to include far too much detail about national and local history, especially political history; it may be interesting but it is not very relevant to the purposes of the EP.) This section will also summarise the physical and land use development patterns of the city, both historical and current.

The section on *Population Characteristics* can be brief, because most of the data should be compressed into one or two short tables. (It is important that these tables use summary data only; any detailed statistics requiring large tables should be put into the Annexes.) Only a limited amount of information is needed: population growth patterns, distribution of population by district or administrative area (including population density), and perhaps age and sex distribution as well.

The section on *Economic Structure and Employment* should also include some short summary tables, for instance giving a rough break-down of economic structure in terms of employment distribution. There is no need to give any general description of the national economic context - focus on the economy of the city. This section should only provide a general picture: lengthier descriptions and further details, remember, will be given in Chapter 2.

The section on *Social Aspects* should give a brief summary introduction to a wide range of issues which are important locally. There should be a clear

description of the poverty situation - the nature and extent of poverty in the city. For instance, low-income housing areas (slums, unauthorised settlements) should be noted either here or in the section on Features of City Development. Particular attention should also be given to describing key local gender issues, and where possible, information should be disaggregated by gender. (For example, literacy rates shown separately for men and women is an important indicator.) In addition, there should be identification of marginalised groups and minorities, and of their situation in the city (like street children).

The section on *Administrative Aspects* should give a brief over-all description of the administrative organisation of the city and its region. In particular, it is important to make clear the administrative structure - for instance, what (if any) are the sub-units of the city? How does the city administration relate to that of the region or province? If there are important sub-units - or if the project concerns a group of cities - then it is important to show their relative size and importance (for instance with a summary table of populations). Remember, it is *not* necessary here to go into detail - Chapter 4 of the Environmental Profile will provide an extensive discussion of all these points.

You may initially find the limit of roughly one page per section to be very restrictive and difficult to observe. However, experience shows that this limit is perfectly reasonable and achievable - so long as you keep your descriptions simple, summarised, and tightly focussed on the key points of development and environment.

In this chapter a **simple base map** (A4-size) should be included, to give a clear geographical and locational framework for the information presented. (Refer back to section B2.3 'Using Maps in the EP' for guidance on use of maps.)

Many earlier Environmental Profiles made this chapter too long and detailed, filling it with elaborate - but mostly unnecessary - information. Be sure to keep this as a general, brief and introductory chapter. Don't go into detail.

!!

Because its purpose is simply to provide a summary introduction to the city, Chapter 1 must be kept very short. This is not the place for lengthy and detailed presentations. On the contrary, to successfully serve its purpose of general introduction this chapter should be no more than six pages in length (which is on average about one page for each of the recommended six sections).

Therefore, the *maximum* length for this chapter should be seven pages in total: six pages of text and tables, plus one page for the A4-size base map.

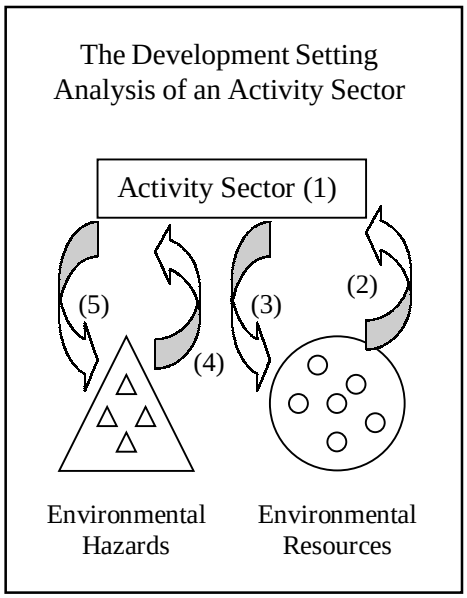
An **example** of a City Introduction Chapter (taken from the Environmental Profile of Freetown, Sierra Leone) is given in Section C6.

B5
The Development Setting (Chapter 2 of the EP)

B5.1 The Logic of Chapter Two

The purpose of this chapter is to analyse the development activities of the city and how they interact with the urban environment. The main characteristics of the city's Activity Sectors are briefly described, and then each Activity Sector is examined separately, to analyse its inter-relationships with Environmental Resources and with Environmental Hazards.

The diagram (right) illustrates the way in which environment-development interactions are analysed in this chapter. The numbers in the diagram refer to the five components of the analysis - which is carried out separately for each activity sector. In the first part of the analysis (1) the Activity Sector itself is briefly described. The second part of the analysis discusses the use of various Environmental Resources by that activity sector (shown as 2). The third part examines the impact of the activity sector on resources (3). The fourth part then looks at the effect of Environmental Hazards on the Activity Sector (4). Finally, the fifth part considers the impact of the activity sector on the various environmental hazards (5). (The different parts of the analysis are described in more detail in Section B5.4)



B5.2 What is an Activity Sector?

The three key concepts used in this chapter (and also in the following chapters) are ***Activity Sectors***, ***Environmental Resources*** and ***Environmental Hazards.*** These terms are central to the SCP approach, and they have a particular meaning within the SCP context. It is not necessary to define them precisely or in an academic way; but it is important that they are understood properly and used in the correct manner to fit the logic and structure of the Environmental Profile. The meaning of Environmental Resources and of Environmental Hazards will be made clearer in the following section (B-6); but it is necessary at this point to explain rather more fully what is meant by "Activity Sectors" in the context of the EP.

Broadly speaking, an **Activity Sector** is a group of organisations and people who are engaged in the same general economic activity; in other words, an activity sector is a category of development activity within the city. Each activity sector will include groups and organisations which have broadly similar interests and needs - and broadly similar relationships with city development and with urban environment.

For example, there will almost always be a range of mining activities in or near a city, including the extraction of sand, gravel and rock which is required for urban construction; if there is coal-mining or mining of other minerals and ores, these would also be included in this activity sector. These activities have similar characteristics and have generally similar effects on the physical environment.

To take another example, there will normally be an activity sector for manufacturing activities, including a wide range of production industries covering all the city's factories (whether privately or publicly owned). In most cities, however, it will also be important to categorise separately the very small-scale handicraft and production activities into what is commonly called the "informal sector". Because the "informal" sector has very different characteristics - and very different relationships with the urban environment - it is worthwhile to make it a separate activity sector.

There is no fixed rule for identifying and categorising activity sectors. The situation will be different in each city, and the list of activity sectors will reflect the particular local circumstances. Only those activity sectors which are important in *your* city should be included. For instance, inland cities not on major rivers may have no harbour activity; other cities may have a harbour which can easily be included as part of the transport activity sector, along with railways, roads, airports, etc. But in some cities, the harbour is a very major economic and physical activity and it can usefully be identified as a separate activity sector.

Remember, the basic purpose of identifying these activity sectors categories is to emphasise specifically those activities which are important for understanding the city's urban development and its relationship to environment. Hence, more attention is given to those 'main' activity sectors (such as mining, manufacturing, housing, transport, agriculture) which have the biggest effect on urban environmental management.

Correspondingly, less attention is given in the EP to activity sectors which do not have such important consquences for the urban environment. For instance, the city's education and health activities may be significant in terms of employment and value to the city's citizens; but these activities are not very important in terms of urban physical development - and not very important in terms of use of or impact on environmental resources. For this reason, education and health (and related public services) are normally put together in a single activity sector and given relatively little space in the EP. Equally, the wide range of retail trade (shops, restaurants), business services and public services are usually quite important in terms of employment - but not very important in terms of impact on the city's environment. Thus, it is normally sufficient to group all of these activities together into a single category (Commerce & Services).

The sample Table of Contents given above in section B3.2 gives a list of possible activity sectors. But in practice, many variations on this list have been used. The activity sectors used in *your* EP should be the ones which reflect the specific local situation in *your* city.

B5.3 Using the Activity Sectors

In this chapter of the EP, each activity sector will be separately described. Each description should give attention to the whole sector, over-all and city wide. In general, it is not necessary or appropriate to describe individual enterprises or sub-groups within an activity sector. Sometimes, for example in the manufacturing activity sector, it is useful to describe separately the most important sub-sectors (e.g., chemicals, pharmaceuticals, steel) especially if these are the ones which have the most significant impacts on environmental resources. For most activity sectors, however, it will not be necessary to discuss sub-categories.

Also remember that the description here in Chapter 2 of the EP must remain short and concise. There is only space for a summary description - no lengthy details! A small summary table of statistics is often the best way to convey key information about an activity sector. As emphasised before, the EP is not an academic or scientific research document - it should *not* attempt to be 'comprehensive'. Here in Chapter 2, include only the basic information which is important for understanding the development-environment linkages in your city.

This chapter is not intended to be 100% accurate. The exact figures and percentages are not important for the purposes of this chapter. As long as the descriptions are broadly accurate, that is sufficient. Systematic identification and clear description of the Activity Sectors is much more important than precise or detailed statistics.

!! *One of the most common mistakes made in previous EPs has been to spend far too much time and energy trying to get complete and/or precise information and statistics. This almost always leads to delay in producing the EP - and diverts time and resources away from other, more essential project tasks.*

At least for the main Activity Sectors, the geographic distribution of the activity should be illustrated with a simple map, superimposed onto the base map which was used in Chapter 1 of the EP.

The appropriate number of pages for this chapter depends on the number of different Activity Sectors to be discussed. A main Activity Sector should not comprise more than two pages text, and a minor Activity Sector should be kept to one page or less. In general, this chapter should comprise at least ten pages - but **no more than 20.**

Finally, one of the objectives of this chapter is to encourage readers to recognise themselves as being part of one or more activity sectors - and to understand how they, as part of that activity sector, affect the environment and how their activity sector is affected by environmental resources and hazards. It is therefore important to write this chapter from the individual activity sector's point of view. This *actor specific approach* is crucial for the success of the chapter.

B5.4 How to Write The Chapter

Once the city's activity sectors have been satisfactorily identified, then the chapter can be written by carefully following the procedure given here. The following information should be presented, **separately for each activity sector**, in this order:

- characteristics of the activity sector
- the activity sector's use of environmental resources
- the activity sector's impact on environmental resources
- the way the activity sector is affected by environmental hazards
- the contribution of the activity sector to environmental hazards

When this is done, separately, for every identified activity sector, then Chapter 2 of the Environmental Profile will be complete.

The details of the information to be provided under each of these five general headings can be elaborated as follows.

1 Characteristics and significance of the activity sector

Describe very briefly the nature and characteristics of the activity sector, including where appropriate the following sorts of information:

- the general types of activities in the sector
- rough idea of how many people work in the sector, separately where applicable for the 'formal' and the 'informal' sub-sectors
- recent trends in the sector (and if applicable in sub-sectors) - growth or decline in activity, in employment, etc.
- important linkages, if any, to other activity sectors
- any other important characteristics or information.

Describe how the sector is organised - what are the groups, institutions, firms, individuals, ministries, sector representative bodies, etc. which are important for organising the way in which the sector operates?

Describe any special arrangements which have been made to link the sector with environmental management activities in the city.

2 The Sector's Use of Environmental Resources

Describe in general the *use* of environmental resources by this activity sector, in terms of both quantities and qualities:

- What specific resources are used by this activity sector (water, air, land, minerals, trees, etc.) - primarily, those which are essential inputs to the activity itself?
- What is the size (scale) of use of these resources, in approximate (not necessarily precise) *quantitative* terms?
- Does the sector have special needs for particular *quality* of resources?
- What are recent trends in the consumption (use) of resources by the sector - what are likely future consumption patterns?

Describe the *availability* of these environmental resources, for the sector:

- What are the main sources of supply of these resources - in particular, identify sources of supply which are in the city or its surrounding area? Have these sources changed in recent years?
- Are there specific shortages of certain resources - or are there problems in obtaining the quantity - or the quality - of resources needed?
- How readily available are the resources which are being used by the sector? What special measures have been taken to expand available supplies or to protect existing supplies?
- Does this sector compete directly with other activity sectors for supplies of the environmental resources - and if so, in what ways is there direct conflict over use of resources?
- What are the trends in availability, or quality, or price of environmental resources used by the sector?
- Are there any particular initiatives underway in response to shortages?

3 The activity sector's impact on environmental resources

Describe in general terms the impact the activity sector has on different environmental resources - that is, *degradation* and/or *depletion*:

- What are the main polluting effects of the activity sector, and how do these affect various environmental resources
- Does the activity sector's use of resources cause observable depletion of any environmental resources?
- In what other, direct and indirect, ways does the activity sector affect the quantity and quality of environmental resources?
- What changes, if any, have been occurring in the pattern of impact of the sector on various resources?
- Have any projects or programmes been undertaken specifically to alleviate the impact of this activity sector on various resources?

4 The way the activity sector is affected by environmental hazards

Describe the ways in which different environmental hazards have an effect on the activity sector:

- Identify any environmental hazards which have a significant effect on the activities of this sector.
- Describe the specific ways in which the identified hazards (if any) impact on the activity sector, either directly or indirectly.
- How frequently have these impacts occurred, and with what severity: what have been the damage sustained and/or the costs imposed?

5 The contribution of the activity sector to environmental hazards

Describe the ways in which the activity sector affects environmental hazards in the city.

- In what ways does the activity sector contribute to damage from urban environmental hazards, for example by making them more likely to happen or more severe?

- What are the relationships between the activity sector and various environmental hazards - and what (if anything) is being done about it?
- Has the situation been changing in recent years, and what are the prospects for the future?

In reality, it will not be necessary to provide information under all five headings for all of your city's activity sectors. For many activity sectors, it will turn out that some of the questions do not apply at all, or may require only very brief answers. In some cities, for example, many activity sectors will not significantly affect, or be affected by, environmental hazards. In this case, nothing needs to be said under points 4 and 5, except to state that there are no significant relationships between this activity sector and environmental hazards.

For some activity sectors, their use of environmental resources will be very limited indeed. Education and Health, for instance, generally turn out to have relatively little consumption of environmental resources - and they typically have little impact on environmental resources.

Thus, although it looks like a large amount of information to provide, in practice it will prove to be considerably less than you may fear (see the example below). Remember - information is needed only if that particular activity sector actually has *significant* relationships with environmental resources and environmental hazards. Putting the information into this systematic structure enables the Environmental Profile to focus on the key points, the key actors, and the key development-environment relationships. For this reason, it is vital that Chapter 2 is prepared in this particular way.

Chapter 2 is the first of the three "core" chapters of the Environmental Profile, and this chapter must correctly provide the crucial information on which the following two chapters will be built. If the city's activity sectors are accurately and systematically described in the manner specified here, then this chapter will provide a sound basis for writing the next chapters. However, chapters 3 and 4 can only be written once Chapter 2 is properly completed - because those chapters require the use of information which is prepared as part of Chapter 2.

To help illustrate the way in which the structure of Chapter 2 might work out in practice, a hypothetical example of the analysis for one single activity sector (Fisheries) is shown in the following box. This example is synthesised from EPs of several different cities and is therefore realistic - although it does not represent any particular city. It is written in a way which answers the relevant questions clearly but with a minimum of text and without repetition.

EXAMPLE OF ACTIVITY SECTOR PRESENTATION FOR CHAPTER 2

2.4 Fisheries

2.4.1 Characteristics and Significance of the Fisheries Sector

Fishing take place in fishponds and in Lake Eleanor. The fishponds are mainly for household consumption and for local, informal trade. The exact amount of fishpond production is unknown, but it is likely to be relatively small, as there are not many fish ponds. Lake fishing is a major food production activity and a significant source of employment and income. There are two fishing companies, catching roughly 40,000 kgs of fish annually and employing about 50 full time workers in total (both estimates 1994); many additional jobs in transport and trade are dependent on the Lake fisheries. In addition, many self-employed fishermen make their living from the Lake fisheries. The number of small scale fishermen as well as the amount they catch are unknown. The two fishing companies produce primarily for the city but also export some amount to other areas of the country. The small scale fishing is for own consumption or is brought to markets within the city.

Although data is not available, the number of small scale fishermen seems to have been increasing over the last decade, although this increase appears to have slowed down or stopped over the last few years. There is no scientific evidence on sustainable levels of catch, but there are indications that fishing in Lake Eleanor is reaching its limits (see below).

The self-employed fishermen are not formally organised, but they frequently meet to discuss their problems and select representatives to discuss their concerns with local and regional government. A project (supported by Japan and implemented through the regional government) was recently started, looking at ways to increase the fish catch without threatening future stocks, for example through exploiting other fish species.

2.4.2 The Fisheries Sector's Use of Environmental Resources

The fisheries sector uses the natural marine resources of the Lake: the freshwater itself and the fish population it supports. The sector does not use other resources in any significant amount. Those engaged in fishpond production use freshwater, usually from existing water-courses, to maintain the freshwater in their fishponds.

The present rate of fishing in the Lake is most probably not sustainable, meaning that the regeneration of the most commonly exploited fish species is less than the rate at which they are being caught. The fact that the growth of the fisheries sector has come to a standstill, and the increasing complaints by the fishermen that their catch is decreasing, are signs of possible over-exploitation of the fish resources.

Although there is a normal seasonal variation, the water levels in Lake Eleanor seem to have remained fairly stable over recent years. More serious is the potential loss of quality through increasing pollution from many sources (particularly, sewage disposal, urban agriculture, industry, and tourism). Evidence is limited, but there are indications that increased organic pollution is promoting excess growth of aquatic plants, which in turn interferes with traditional in-shore fishing. Longer term effects of pollution on the quality of the Lake water - and on the quantity and quality of fish - is not known.

The quantity of water in most areas seems sufficient, although in the north-east of the city there appears to be a reduction of water available for the fishponds, especially in the dry season. This is probably associated with increasing diversion of streams and rivers for irrigation of farms in that area. There are also complaints from fishpond operators about the quality of the available water; there are unexplained losses of fish stocks which they attribute to up-stream contamination, perhaps from increasing fertiliser use on suburban farms.

2.4.3 The Fisheries Sector's Impact on Environmental Resources
The primary impact of the fisheries sector is on the species which it is suspected are now being over-fished.

The fishing companies use diesel powered boats; most of the small scale fishers use sailing boats and rowing boats. Both the formal and informal (unregistered and unsupervised) boatyards and berthing areas along the city lakeshore are polluting the Lake through their activities (paint, oil, cleaning liquids, other waste). The immediate impact of this pollution is felt along the coast near the sources; more indirect impacts are suspected but not measured.

In the last year there have been reports of illegal dynamite fishing by small scale fishermen. This is a very dangerous development, as dynamite fishing can quickly destroy whole marine environments, not just the commonly fished species, and lead to a rapid loss of future fish stocks.
Households down-stream of fishponds have complained periodically of contamination of the streams, which they attribute to the supplementary feed being put into the fishponds to encourage faster growth and denser fish populations.

2.4.4 The impact of Environmental Hazards on the Fisheries Sector
The annual flooding transports much mud with the rivers to the Lake and also to the fishponds. When the flooding is at its highest, much of the shoreline of the Lake are muddy, causing difficulties (for the small-scale fishermen) in landing their boats and forcing them to go further out in the lake; their catch is slightly diminished during this approximately one month period.

More rarely - some three times in the last ten years - unusually heavy rains bring flooding to several of the small rivers and streams in the area, which in turn sometimes causes nearby fishponds to burst their banks, allowing fish stocks to escape. It is suspected that this flooding in the south-west part of the city has been made worse by the extensive filling-in (for housing) of swampy and low-lying areas which formerly acted as temporary reservoirs and flood buffers.

2.4.5 The Effect of the Fisheries Sector on Environmental Hazards
In several areas of the city, the fishponds temporarily absorb a small amount of excess rainfall, thus slightly reducing the flood hazard in those areas. Otherwise, the activities of the fisheries sector appears to have no significant effect on the nature, frequency or severity of environmental hazards.

B 6
The Environment Setting (Chapter 3 of the EP)

B6.1 The Logic of Chapter Three

Chapter 3 of the EP examines environment-development relationships in the city *from the point of view of the environment* - in contrast to Chapter 2 which is written from the activity sector point of view. Accordingly, in this third chapter each of the city's important 'Environment Resources' (and 'Environmental Hazards') will be separately identified and analysed. For each environmental resource or hazard, the use of that resource by all the different activity sectors will be brought together to show the total use of that resource/hazard. Similarly, all of the various impacts (qualitative and quantitative) on that resource/hazard from the different activity sectors will be synthesised into a total impact. In this way, an over-all picture will be established, giving a good idea of what is happening to each environmental resource/hazard.

This over-all synthesis will also highlight competition and conflicts of interest over particular resources or hazards.

Chapter 3 should be divided into two main sub-sections. The first section is the more important, and it will examine the city's **environmental resources** and the ways in which the city's activity sectors make use of - and have impacts on - these resources. The second section will focus on the city's **environmental hazards** and the ways in which these hazards affect the various activity sectors of the city.

Much - even most - of the information required for Chapter 3 will already have been compiled in Chapter 2, where it is worked out separately for each of the city's activity sectors. In Chapter 3 the task will often be to bring together and make totals of the information which was presented separately (by activity sector) in Chapter 2.

B6.2 What are Environmental Resources?

In the context of the Environmental Profile, environmental resources are primarily those things arising from the physical world which are used (currently or potentially) to support urban life and development. This means air, water, land - and the living and non-living things found in them.

For example, fresh water is an environmental resource, vital as drinking water and as water for washing and cleaning; it can also be important for the fish and plant life which it supports. In addition, it is often an important resource for its ability to absorb and cleanse significant amounts of organic waste. It can as well have many other functions and uses, for instance the moderating effect of large fresh water bodies on local climate, or its use as a cooling agent for various industrial processes, or its importance for recreation and tourism. All these different 'uses' by different activity sectors should by now have been described in Chapter 2.

For another illustration, consider land, which is a crucial resource in many ways. In the urban context, land surface is essential to provide space for

urban construction. Urban land is limited in quantity and variable in quality (slope, drainage, bearing capacity); when the factor of location is taken into account, the usefulness of different pieces of land is changed even more dramatically. Land as space for human activities gives rise to constant competition - urban construction, agriculture, forestry, open space, etc. However, land is also valuable for its content - the minerals and other things which it contains. Sand, gravel, rock, and soil are needed for urban construction - and these must be dug out of the ground. Valuable mineral deposits such as coal may be crucial for local and national development, but they must be mined and removed from the ground.

There are other environmental resources which do not fit easily into the main categories of air, water and land. For example, there may be wildlife areas or areas of special ecology; these are considered important for their plant and animal life and usually are based upon particular combinations of water, air, and land characteristics.

Finally, there are some types of special environments which are man-made rather than natural - but which are nonetheless considered quite important and are included in the EP under the general heading of environmental resources. Most common of these is a city's cultural and historic heritage - for example, buildings and neighbourhoods of particular architectural merit, historical monuments, etc.

The list of environmental resources given in the sample Table of Contents (in section B3.1) is reasonably complete and has been satisfactorily used, with some modifications, by most cities preparing EPs. That list is shown in the box below:

SAMPLE LIST OF ENVIRONMENTAL RESOURCES

3.1 Water:
- surface water (rivers & lakes)
- ground water & aquifers
- coastal seas

3.2 Air

3.3 Land:
- for urban construction
- for agriculture
- minerals, aggregates, & mining
- forests, natural vegetation & recreational areas
- wildlife areas & special ecologies

3.4 Cultural & Historic Heritage

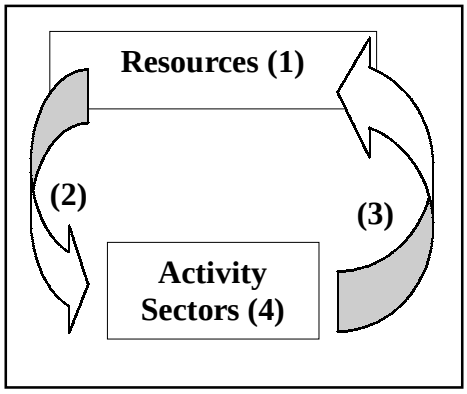
For purposes of the analysis of Chapter 3 in the EP, each of the important sub-categories should be discussed separately, for instance, surface water, ground water, and coastal seas should be analysed separately.

B6.3 Analysing Environmental Resources

In this section of Chapter 3, each of the identified Environmental Resources is analysed separately. This is done in a systematic way, in five sub-sections:

- Characteristics of the Environmental Resource
- The Use made of that Resource by all Activity Sectors
- The Impacts on that Resource from all Activity Sectors
- Competition for Use of the Resource
- Management Arrangements

Remember: when analysing a particular environmental resource, it is the **total** use and impact from all of the city's activity sectors which is important. The various activity sectors were individually analysed in Chapter 2; here in Chapter 3 we are concerned with their total resource use and impact, which comes from adding up their individual uses and impacts.



This diagram illustrates graphically the different sub-sections of analysis. In the first, the environmental resource is described (1). The second sub-section discusses the use of the environmental resource by all the activity sectors together (2); this may include any *depletion* of the resource. The third sub-section discusses the impact of the activity sectors (in total) on the environmental resource (3); this deals with an possible *degradation* of the resource. The fourth sub-section discusses conflict among the activity sectors as they compete for use of the environmental resource (4). The fifth sub-section (not indicated in the diagram) discusses any special management arrangements or initiatives which relate to that particular environmental resource.

The five sub-sections, which apply separately to each environmental resource, can be elaborated in fuller detail as follows:

1. Characteristics of the Environmental Resource

Give a brief description of the Environmental Resource, including (when appropriate) the larger environmental system of which it is a part. This should describe both quantity and quality, covering different sub-systems where appropriate. The description should also indicate the different ways in which the resource is used in the city, thus giving a clear idea of its significance.

2. The Use Made of that Resource by Activity Sectors

Describe the use of the environmental resource overall - in total - by adding up the different 'uses' of the individual activity sectors (as described in Chapter2). Is the resource being *depleted* - are available supplies being run down, and are there increasing shortages? (Shortages may be reflected in

increasing prices, as additional costs become necessary to secure sufficient supplies.) If the total use of the environmental resource is greater than the supply (or greater than the natural recharge or regeneration), then the current exploitation of the resource is unsustainable.

For example, excessive extraction of ground water by individual bore holes and deep wells in many cities is greater than natural recharge, leading to a steady lowering of the ground water level. This is a level of extraction which is unsustainable in the long run and can cause not only significant extra costs (deeper wells and bigger pumps) but also serious permanent damage (as in coastal cities in which the loss of fresh-water in the ground leads to intrusion of salt water from the sea thus spoiling the remaining ground water).

Do not discuss the conflicts between the activity sectors over the use and/or availability of the resource yet, this will come in sub-section 4 below.

3. The Impacts on that Resource from Activity Sectors

Describe the various impacts which activity sectors have upon this resource (in particular, the impacts of pollution and damage). How sensitive is this environmental resource to the impacts caused by the city's activity sectors, both individually and taken all together? Describe how the resource is being *degraded* because of the impacts on it from all the activity sectors. Remember, the degradation caused by a single activity sector might be limited and not causing damage, but impacts from all activity sectors together might be causing (or threatening to cause) significant damage. Also note, where appropriate, the various different types of pollution and degradation and their possibly different impacts.

For example, the waste discharged into a river by one neighbourhood may perhaps not cause problems, as the river is able to absorb it; but when waste from many other neighbourhoods is added, the biological load may well be too great. If waste from industrial production is added - especially when it includes inorganic material and chemicals, the river might quickly become seriously polluted thus making it unusable as a source of fresh water.

4. Competition for Use of the Environmental Resource

This sub-section should highlight competition among the city's activity sectors for use of this resource. The use of the resource by one activity sector very often conflicts with its use by another activity sector; for example, the same plot of land cannot be used both for green open space and for housing construction. Equally, there are many situations in which use of the resource by one activity sector causes degradation of the environmental resource, which limits its usefulness to others; for instance, a stretch of river used for sewerage disposal cannot be used as a drinking water source. Also, present depletion and/or degradation might threaten the availability of the resource in the future.

5. Management Arrangements

Briefly discuss existing management arrangements - if any - related to this environmental resource: which organisations are responsible for the management of the resource? Are there any special arrangements, like commissions or projects, to help manage the resource? Do not discuss the city's management in general, as this will be discussed in Chapter 4 of the EP; instead, focus here specifically on the management of this environmental resource.

To help show what is meant, the box below gives a hypothetical example of how one environmental resources (Air, in this case) could be dealt with. The situation is imaginary, but it represents a synthesis of real circumstances which exist in various of the SCP cities.

EXAMPLE: ENVIRONMENTAL RESOURCE - AIR

1. Characteristics of the City's Air as an Environmental Resource

The city is under the influence of sea winds, generally blowing inland from the east to south-east although during the rainy season (usually from January to the end of March) the wind direction is more southerly. The wind is not very strong: normally between 1 and 4 on the Beaufort scale, but during the rainy season (typically February) the winds can sometimes reach storm strength, even occasionally becoming hurricane force (see the section on "Environmental Hazards"). During the peak of the dry season (around October-November) there is very little wind, often for days at a time.

As described in the City Introduction (paragraph 1.1), the city is flanked by hills on the western and, partly, northern sides. Although not very high (up to 400 metres), they creates a sort of "bowl" in which pollution from the city is not easily blown away by the mostly easterly winds.

During most of the year, the climate is quite humid, which can complicate the problems of air pollution.

2. The use that Activity Sectors make of Air as an Environmental Resource

All persons, indeed all animal and plants, must use air to sustain life; in terms of quantity, sufficient air is freely available. However, when the quality of air is taken into account, the situation is different: in much of the city much of the time, air of satisfactory quality is not sufficiently available. The main reason is that air is also used by many different activity sectors as a way of disposing of waste products. Electric power plants, power plants or production process in factories, heating facilities in buildings and homes, etc. - all use air as a way of carrying away the waste products which result from their activities. The same is true of motor vehicles of all types: they rely upon air to carry away their waste products.

Increasingly residents of the central areas of the city are travelling during the weekends to places such as the RodeJo Hills or the northern beaches, precisely to enjoy the pleasures of cleaner air - pleasures they can no longer enjoy in the city itself.

3. The impacts of Activity Sectors on Air

Over-all, the air quality in the city has steadily deteriorated over the last decades. Air is a "common" resource, in which the total pollution impact represents a mixing of pollutants released into the air from a wide variety of sources. However, because they often produce different types of pollutants, different activity sectors can generally be identified as the primary sources of

these components of air pollution. Reliable measurement is very limited in the city, but the general picture is nonetheless quite clear. The major causes of air pollution are the Southern industrial area and the city's rapidly-growing motor vehicle traffic, but many other, minor, sources contribute as well. Based on information presented in the previous Chapter, these air pollution impacts can be summarised as follows:

Southern Industrial area
As described in the previous chapter, the industrial installations in this area are old, using out-moded technology, and poorly operated and maintained; this results in high levels of natural resource use and high levels of pollution. Although this industrial area once was outside the city boundaries, rapid urban growth means it is now surrounded by residential areas (see basemap on p. xx) - which means that more and more people are affected by the industrial pollution. Scientific measurements are not available, but judging from the type of production processes in the area, it seems that the major air pollutant is SO_2 In addition, there are industries which produce strong odours which are carried in the air and which are unpleasant for near-by residents. (At present a special study is being made of air pollution from the industrial area, with Dutch and United Nations assistance.)

Traffic and Transport
There are only an estimated 30,000 motor vehicles in the city, but the number is increasing very rapidly, doubling every 8 years. Individually, the vehicles are highly polluting, being based on high-pollution technology and typically being badly maintained; the petrol used in the city has lead (Pb) additives. The concentration of traffic in the central area has caused even the relatively small number of vehicles to produce considerable pollution in that district. Although it has not yet been properly measured, the CO_2 component of city air pollution is most probably attributable largely to motor vehicles. The diesel engined heavy vehicles are also responsible for carbon particulates emission.

Small scale, often informal, businesses and industries
The precise contribution of this sector to the city wide air pollution is difficult to determine. They are a major local problem in certain areas, causing significant (and often visible) localised air pollution, some of which is potentially quite dangerous. Two examples are: (i) car repair/ maintenance workplaces, causing air pollution when spraying cars in the open air, and (ii) small scale metal smelting-works, emitting dangerous and poisonous gasses. The concentration of dangerous air-borne pollutants in the immediate vicinity of these (and similar) workshops can be very high and dangerous to health, especially of children. Very few of these small workshops are registered and supervised; in most cases the operators are themselves ignorant of the dangers of their pollution.

Dust
Dust is a problem all over the city during the dry season, especially during the months July to October. The major source of dust (particles of soil suspended in the air) is the open land, which lacks sufficient cover vegetation, in the immediate vicinity of the city. A second important source is building sites and construction works. A third is the three "informal" minibus stations; lacking hard-surface parking and loading areas, they use open ground which becomes very dry and dusty during the dry season; the constant movement of vehicles stirs up great clouds of dust which often disperse widely into surrounding areas.

Waste burning at the City Council's waste dump
At the city council's public dumping site on the old High Road, solid waste is dumped by the collection vehicles and then burned. There are no facilities for proper burning, or for control of smoke, and as a result the incomplete combustion of these crude fires from mixed materials produce a great deal of smoke and suspended particles. This dumping site used to be well out of town, but as the city has grown rapidly over the past years, the site is now surrounded by informal settlements. The people living around this waste site, especially those situated north and north-east of it, downwind, are being heavily exposed to dangerous fumes.

4. Competing interests among the Activity Sectors in respect to Air

There are persistent conflicts among different groups, particularly between those wishing to use the city's air for disposing of their waste products and those who wish to have clean air for other purposes. Some of the important situations of competition and conflict are the following.

Southern Industrial area / harbour offices
With a southerly/easterly winds (the dominant wind direction) the offices immediately north of the harbour are receiving air pollution from the industrial area. Part of the office space has been empty for many years, and the owners of the office buildings have claimed this is because of the air pollution caused by the industrial area.

Traffic and transport
Traffic and transport can be expected to produce increasingly serious air pollution problems, especially in the city centre, over the next few years. However, the demand for greater motor vehicle use (and its associated air pollution) is beginning to be faced with a demand by city centre residents and workers for a less congested and cleaner environment; there are special worries about the increasing lead (Pb) concentrations in the air breathed by those living and working in the city centre.

Small scale workshops
Although the air pollution from these workshops tends to localised in its impact, it contains potentially very dangerous chemicals and toxic materials. Local residents strongly object, but it has proved difficult so far to take positive action. In certain areas, like the Gulkeb district where many car workshops are situated close to one another, the city has tried to work with the owners of these shops, but as yet unsuccessfully.

Dust
There is a direct conflict between the minibus drivers/ owners and the people living next to the informal minibus stations. The people have asked the city council and the minibus owners to pave the bus stations to reduce the dust, but nothing has happened thus far. The city apparently does not want to formalise these bus stations, and therefore does not want to pave them or help in construction in any way.

Waste burning at the city's waste dump
Although the effects have not been properly measured, it is obvious from the way in which the waste is burned that the fumes and smoke are not only irritating and unpleasant but also potentially very dangerous for health, especially in those informal settlements immediately downwind, which are daily exposed to these fumes. The unpleasant odour can be smelled not only in the near-by areas but also further away in middle- and high-income districts some distance away. However, many people living in the immediate vicinity are dependent on the waste site in which they work as 'scavengers' to select waste they can re-use or sell; reducing the waste flow or even closing the site would be against their economic interest.

5. Management arrangements

In 1996, a programme called "renewal of the Southern Industrial Area" was started; it aims to promote technological up-grading and modernisation of the local industries. The programme was initiated by the national government and supported by the World Bank, and it provides credits for renovation and replacement of out-moded and highly-polluting installations and technology. However, this is viewed mainly as an economic support programme trying to improve production, and in practice environmental considerations are marginal.

B6.4 What are Environmental Hazards?

Environmental Hazards are events ("disasters"), primarily arising from the physical environment, which endanger the lives, health and livelihoods of urban populations. They can kill and maim people, destroy resources and property, and disrupt economic networks and social services. In many cities, at least some of these disastrous events - floods, landslides, earthquakes, storms - are all too familiar.

In addition to "natural" hazards, it is useful to also include "man-made" hazards, at least those which pose a potential threat of similar scale to the "natural" hazards. The most obvious is what we call "industrial risk", meaning the hazard represented by industrial processes or products which potentially could release toxic chemicals or radiation or produce a devastating explosion or fire. (The disastrous gas leak at Bhopal and the massive radioactive-particle release from the Chernobyl nuclear plant are examples.) The hazard of large-scale fires, resulting from over-crowded living conditions, can also be included.

Fortunately, very few cities are afflicted by all of the possible environmental hazards. In Chapter 3 of the EP, therefore, you should identify only those environmental hazards which are significant and known threats in your city. A full list of "possible" environmental hazards is given in the box below - but remember, for any one city only a limited number of these will be relevant.

POSSIBLE ENVIRONMENTAL HAZARDS

1. Flooding
2. Landslides, Subsidence
3. Earthquakes, Volcanoes
4. Storms, High Winds
5. Coastal Erosion
6. Industrial Risks (Chemical, Radioactive)
7. Fire

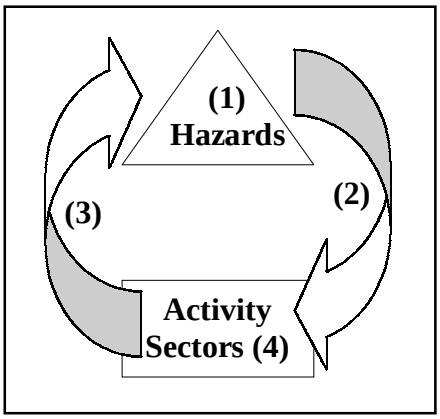
In general, environmental hazards reflect natural forces over which people can exercise little direct influence. However, the actions of people can certainly affect both the likelihood and the impact of such disasters. For example, if low-lying and swampy areas which provide natural flood absorption are drained, this will increase the likelihood and severity of flooding. Equally, when a city expands onto a flood plain, or when housing extends onto steep and unstable slopes, then the damaging effects of heavy rains and flood waters will be much more severe. Similarly, allowing housing to develop close to potentially dangerous industrial facilities greatly increases the potential impact of any industrial incident.

B6.5 Analysing Environmental Hazards

This sub-section of Chapter 3 therefore discusses how environmental hazards interact with the city's activity sectors - how environmental hazards influence the city and its activities and how the city's activities contribute to environmental hazards. The first task is to identify the environmental hazards which are significant for your city. Then each of these environmental hazards should be discussed separately, in a systematic way according to these five aspects:

- Characteristics of the Environmental Hazard
- Impact of the Hazard on Activity Sectors
- Influence of Activity Sectors on the Hazard
- Conflicts among Activity Sectors related to the Hazard
- Managerial Arrangements

It is important to include linkages and influences which may lie well outside the built-up area of the city. For instance, deforestation in upstream areas will often cause severe flooding in cities downstream (as in the case of Cagayan de Oro, Philippines). Loss of vegetation in upwind areas can cause erosion in those areas and lead to significant air pollution through dust and suspended particulate matter in down-wind cities (as has happened in Shenyang, China).



The diagram (left) illustrates how the environmental hazards sub-section is organised into the five aspects noted above. In the first part the environmental hazard itself is described (1). The second part discusses how the environmental hazard affects the activity sectors in the city (2). The third part describes how all the activity sectors together influence the hazard (3). The fourth part discusses conflicts and competition among activity sectors which affect the environmental hazard (4). The fifth and final part discusses any current management arrangements which specifically apply to that environmental hazard.

The five sub-sections, which apply separately to each environmental hazard, can be elaborated as follows:

1. Characteristics of the Environmental Hazard

Give a brief description of the Environmental Hazard, including (when appropriate) the larger environmental or physical system of which it is a part. This description should include concrete information about the actual frequency of events (for instance, how many time a hurricane has hit the city in the last 20 years), as well as specific information about the damage which has been done on these occasions. The description should also indicate, if appropriate, the different areas of the city which are affected in different ways or at different times. For hazards which are potential but perhaps

have not occurred recently (e.g. earthquakes, volcanoes, industrial risks), the best available estimates should be give on the probability of occurrence and of damage.

2. Impact of the Hazard on Activity Sectors.

Describe the nature and size of impact of the environmental hazard on the activity sectors of the city. (This information should have been compiled for individual activity sectors in Chapter 2.) The intention here is to show the impact of the hazards over-all - in total - by adding up the impacts on the individual activity sectors. Information from actual events in recent years should be used, together with estimates for potential impact for those hazards which remain as potential threats. Where impacts are localised and area-specific, this should be clearly indicated (with a map).

3. Influence of Activity Sectors on the Hazard

Describe the ways in which the city's activity sectors influence the environmental hazard - how they effect the likelihood or frequency or severity of hazard events. Be as specific as possible in identifying - and quantifying - the ways in which activity sectors influence the hazard.

4. Conflicts among Activity Sectors related to the Hazard

Describe the ways in which competition or conflict among activity sectors has an influence on the environmental hazard. This is a very important part of the analysis, and it is crucial that these different interests and conflicts the activity sectors be clearly described. Competition may be particularly important in relation to effects upon the hazard - forestry versus watershed protection, for instance.

5. Management arrangements

Are there any existing management arrangements or initiatives to deal with identified environmental hazards? If so, who is responsible and how are the risks of hazards included into daily city management? Are there any special commissions or projects designed to deal with environmental hazard management? (Remember, don't discuss general institutional and management arrangements, as this will be covered in the next chapter.)

To illustrate what is meant to be included in the environmental hazards sub-section, the following box gives a hypothetical example of how one environmental hazard (Flooding) could be dealt with in an Environmental Profile. The situation is imaginary, but it represents a synthesis of real circumstances which exist in various SCP cities.

EXAMPLE: ENVIRONMENTAL HAZARD - FLOODING

1. Characteristics of the Flooding Hazard

There are many small rivers and streams in the city, but the Blue River is the major channel for drainage from the hills to the sea. During the annual rainy season the water level in the river is high and in most years it floods adjoining areas at least once, and sometimes twice. Between 10 and 20 years ago, this annual flooding was very limited; on average, only some 50 hectares of land - mostly then uninhabited - was inundated, and only for a short period. In recent years the flooding frequency is about the same, but the extent of flooding has significantly increased. In the worst floods in the past five years, the area affected has averaged over 100 hectares and has inundated settlements, affecting an estimated 10,000 people. In addition, it now seems to take much longer for the flood waters to recede: some areas have recently stayed flooded for several weeks where it used to be only several days. See map 1 for the situation of the 1996 and 1997 floods compared to those of the mid-1980s.

2. Impact of flooding on Activity Sectors

During recent floods large areas of informal settlement were inundated. Although the water level did not reach high levels and most residents stayed in their houses, there was still considerable damage to housing and property, and the whole area remained muddy and full of standing water for weeks. This made local transport impossible, and the public health situation quickly became dangerous, especially as the flood waters mixed with and spread unprotected sewage drains and local rubbish dumps. The situation will continue to worsen, because every year more informal settlements are being built near the river and in exposed areas. In addition, the floods make many of the wells and ground water sources unusable; this means that water needs to be bought in town or from mobile water vendors, which increases the cost of water. It is mostly women who, during flooding, need to walk to town to buy water.

During the period of flooding almost all economic activities of the affected neighbourhoods are adversely affected; when the flooding is really severe, as in 1994 and 1996, the main road leading close to the river becomes impassable especially for heavy commercial trucks (see map 1); in some areas the over-flow from the river has been undermining the road as well, leading to damage which can take up to 6 weeks to repair. During this period vehicles avoid the blockage by driving through densely built-up areas, producing traffic congestion, local air pollution, danger to children and destruction of the roads which are not build for heavy commercial vehicles.

3. The influence of Activity Sectors on flooding

Eight years ago the national Ministry of Forestry, working through two contractors, began large-scale felling of trees in the forests which then covered most of the hills upcountry - which area is the upper water-shed of the Blue River. The rate of cutting is extremely high and is in the form of clear-cutting which leaves vast areas stripped bare. Although the original plan was for selective felling and immediate re-planting, its seems that little of this is happening in practice. According to a five year old study by the local university, this rate of clear-cutting would

lead, within five to ten years, to greatly reduced absorption and hence greatly increased run-off, which would produce significant rises in peak water levels in the river in its lower reaches. This seems now to be happening.

A number of small, low-lying areas along the river near the outskirts of the city have recently been filled in, to provide building land for new housing areas. These areas are not currently subject to flooding, but the water which previously used to over-flow into these (then uninhabited) areas now remains in the river, causing higher water levels (and worse flooding) further downstream.

4. Conflicts among Activity Sectors in relation to flooding

The people engaged in small-scale agriculture in the areas near the river are apparently happy with the increased flooding, which they say makes the ground fertile and, according to them, increases the harvests several months after the flooding. This view, of course, is in direct conflict with the view of the urban dwellers living in the flooded areas.

The city council has, in its Master Plan (now 11 years old), laid down the policy of not allowing settlement in the known flood areas. However, there has been no enforcement of this plan, due to the enormous pressure from low-income families for land upon which to build. As a result, every year more people are living in areas known to be subject to flooding.

The forestry sector has not really been involved in the discussion about the flooding. This is because the tree-felling is taking place at the initiative of the National Ministry of Forestry, who are also charged with regulation of the activity of the contracting firms, who are not locally-based; there is no legal role for the local government. Only recently a local NGO has raised the issue that the deforestation is the major cause of the increasing flooding, and that the cutting should be stopped and reforestation begun. This has received local publicity, but so far no response from the Ministry.

5. Existing managerial arrangements

There are no specific managerial or institutional arrangements in the city to deal with the flooding and the accompanying problems. At the provincial level a policy document has been written, but this is focussed on the issues of responding to the consequences of flooding - that is, disaster relief measures like food distribution, disease prevention, shelter provision, etc.

B6.6 General Comments on Chapter 3

!! In previous Environmental Profiles, this chapter (both the environmental resources and environmental hazards sections) has often proved to be difficult to write. To avoid such problems, you should stick to the approach given in this outline. Focus clearly on the environment-development interactions, and analyse the city's environmental resources (and hazards) separately and in a systematic way.

Do not mix up the content of this chapter (Ch. 3) and the previous chapter (Ch. 2). Here in Chapter 3, things are discussed from the point of view of the city's environmental resources (and hazards). So the discussion in Chapter 3 should focus on the relation between resources and hazards and the city as a whole - all its activity sectors taken together. This is an **issue-oriented approach.** In Chapter 2, the discussion was from the point of view of individual activity sectors, and in that chapter there was considerable detail of each individual activity sector. Chapter 2 thus takes an **actor-oriented approach**.

When the two chapters are correctly written, each looking at things from a different point of view, two main areas of information should emerge clearly: (i) the constraints which development activities put on environment and vice versa; and (ii) activities and interests of individual activity sectors and their competition and conflict with one another versus the interests and sustainability of the city as a whole.

In this chapter be sure to discuss **the actual situation in your city**. Avoid using general statements about resources, like "over exploitation of the forests may lead to flooding"; instead, use specific examples, backed up where possible with statistics and hard data.

Remember also, only include those environmental resources and hazards which are significant in your city. In some previous Environmental Profiles, there was an effort to provide information under all possible headings, even when those categories did not really apply locally; this is unnecessary and it complicates and confuses the presentation.

The number of pages to be used for this chapter depends on the number of environmental resources and environmental hazards described. Each major resource or hazard should be one to two pages, and each minor resource or hazard should be no more than one page. Ideally this chapter should be about 12 to 16 pages (maps not included).

B7
The Management Setting (Chapter 4 of the EP)

B7.1 Structure and Purpose of Chapter Four

Chapter 4 of the Environmental Profile examines the **Environmental Management Setting** of the city - the political, social, administrative, and managerial organisations and activities which determine how the city deals with its environment-development issues. Chapter 4 is divided into three main sections:

4.1 Key Stakeholders
4.2 Urban Management Structures & Functioning
4.3 Strengthening Urban & Environmental Management

The **first section** identifies the key local participants and interest groups - the people and organisations which have important roles in activity sectors and/or in relation to environmental resources and hazards; collectively, they are called stakeholders. (They are also sometimes called 'actors'.) This section will include stakeholders in the public sector but also those in private business, NGOs, communities, and elsewhere.

The **second section** identifies the institutions and organisations directly involved in managing urban development over-all in the city, especially (but not exclusively) those in the public sector, and explains how they work. This section should focus attention on three key functions of management: (i) information and expertise, (ii) policy formulation and coordination; and (iii) policy implementation.

The **third section** looks at how the city's over-all management system is operating with respect to the key development-environment issues identified in Chapters 2 and 3, with particular emphasis on current initiatives or innovations designed to improve the city's ability to deal with those issues. This section will examine these points at three different levels: (i) technical and operational aspects, (ii) administrative and managerial aspects, and (iii) political aspects.

B7.2 Key Stakeholders

This section will identify the important stakeholders in the city - the persons, groups and organisations which have key roles to play in urban development. The nature, role and activities of each of these key actors and interest groups are carefully described. The purpose is to see the full range of 'stakeholders' in the city and to understand the ways in which they currently - or potentially - affect the process of urban development and the process of environmental management.

Often stakeholders are organised and represented by their organisations. However, sometimes there are also important groups (such as street vendors or small farmers) who are not organised - and they should still be included and discussed in this section. Care must be taken to identify all of the potentially-relevant stakeholders, not just the most obvious ones. It is helpful

to use the following classification to ensure that you cover the fullest possible range of stakeholders:

CLASSIFICATIONS OF STAKEHOLDERS

Public Sector
- local, municipal government
- regional or provincial government
- central or national government
- parastatal companies, other public sector organisations

Popular (or, Community) Sector
- Non-Government Organisations (NGOs)
- Community-Based Organisations (CBOs)
- Private Voluntary Organisations (PVOs)

Private Sector
- Chambers of Commerce, Trade Associations, etc. (Organisations of the 'formal' sector of business and industry)
- 'informal sector' organisations and groupings

Others
- relevant actors and interest groups are not organised (and hence not discussed in the above three sectors).

Remember - the purpose here is to identify and discuss only those stakeholders which have significant roles to play in relation to urban development and urban environmental management. Do *not* try to list all groups in the city. For example, there may be many CBOs which are active in improving the lives and circumstances for the urban poor; but probably only a few of these are concerned with the urban environment - and it is only these few which should be listed in the EP.

You may sometimes find it difficult to make a clear distinction between public, popular, and private sectors; for instance, it might not be clear where to classify the Taxi Drivers Association or the Street Vendors Support Group. This is not really very important. The classification into public, popular, and private sectors is merely a tool to help you make a thorough analysis of the city's stakeholders, so as not to overlook any stakeholders.

!! The important thing to remember is to include all of the groups and organisations which are currently or potentially important, but do not include groups just for the sake of having a long and comprehensive list. In the EPs of previous SCP cities two mistakes have sometimes been made: *first*, important stakeholders have been missed in the initial identification, subsequently causing problems in the activities of the Working Groups; and *second*, groups and organisations were list as stakeholders, even when they had no significant role in urban development and environmental management. These are mistakes which you should strive to avoid.

Don't mix up Stakeholders with the Activity Sectors which were described earlier in Chapter 2 - they are *not* the same. Of course, some stakeholders may be associated closely with one activity sector; for example, there may be an activity sector of fishing, and small-scale self-employed fishermen may be an important stakeholder group for the purposes of the EP.

It is not necessary or appropriate in this section to discuss the stakeholders in detail. Instead, this section should very briefly describe each of the relevant stakeholders and then give a short overview of the role played by each.

Remember: do not discuss stakeholders' general roles and activities - only discuss stakeholder roles which are directly relevant for the environmental and urban management issues which arise from Chapters 2 and 3.

Also, keep in mind that some stakeholders may have significant roles to play in relation to many or even most of the various environmental issues, whereas some stakeholders may have a role to play only with respect to one particular issue. All of these stakeholders should be identified and described in this section, but the description should make clear what their respective roles are in relation to the key environmental resources and activity sectors.

When describing the various stakeholders, it is useful to discuss briefly their activities and roles in relation to the following three aspects of urban development and environmental management:

(i) information, knowledge, technical expertise
This concerns the information, specialised knowledge, and technical expertise which different stakeholders may possess or have access to. It is important to realise that relevant and useful knowledge is much more than simply the technical skills possessed by trained professionals; informal knowledge - and practical 'experience' - is often as valuable or even more valuable than formal or academic knowledge. For example, long-term residents in a neighbourhood will have valuable, even if unsystematic, first-hand knowledge of flooding patterns; fishermen will have good practical understanding of the behaviour of the main species being fished for.

(ii) decision making, policy formulation and policy coordination
This concerns the extent to which various stakeholders are involved in the designing of policy and in various stages of the decision making. What are the responsibilities, mandates and policies the stakeholder is formally responsible for? To what extent can the stakeholder perform the tasks assigned? What informal, unofficial influence does the stakeholder have in the decision making process? Remember that private sector and community sector stakeholders can have significant influence and roles to play in policy formulation and decision-making, even if public sector organisations are the main actors in this respect.

(iii) policy implementation
This concerns the involvement of different stakeholders in implementation of the city's development and environmental policies and programmes and projects. This involvement can be formal - as in public sector stakeholders with legal implementation responsibilities - or informal as in the role of communities and NGOs and private sector groups, whose roles are not so

explicit but may still be extremely important. To what extent is the stakeholder involved in various aspects of implementation, such as public awareness and education, economic incentive mechanisms, regulatory mechanisms, strategic capital investment, etc. How powerful is the stakeholder's role, and in what ways does the support of the stakeholder strengthen implementation efforts?

The number of pages of this section depends on the number of different stakeholders identified and discussed. The length of each of the sub-sections will vary according to how many stakeholders in that category have been identified, and that will vary considerably from city to city.

However, the total for this section of Chapter 4 should be about five or six pages, with a maximum of seven.

B7.3 Urban Management Structures and Functions

This section should focus on city wide management; it should explain the general management (administrative) structure of the city. An overview should be given of the city's organisational structure, explaining which departments have which responsibilities and showing what their relationships are. This will provide a basic, "static" description of the city's management structure. In addition, a "dynamic" description should be given, explaining how the management works in practice - how the system actually functions, how departments and organisations cooperate and coordinate, etc.

Use organograms (organisation charts) to illustrate the city's management structure; if applicable, also use them to describe other management levels and systems, for instance to show the relation of the city's administrative and management systems with those of the province/region or with the national government.

It is recommended that this section be written under the following four main headings, considering so far as possible the various types of questions and topics indicated below:

1. ***Over-all Organisation and Structure***
   - the basic structure and organisation of the city's management system - the institutions and groups which are responsible for various aspects of urban management and environmental management
   - the linkages and relationships with regional and national government bodies and organisations
   - the ways in which organisations and groups outside the public sector are brought into the system

2. ***Information, Knowledge, and Technical Expertise***
   - organisations and groups responsible for collection, distribution, analysis, management, and use of information and specialised knowledge
   - accessibility of information - how well is it shared and made available to those who need it? how widely and easily accessible is the information?

- main areas of technical expertise available to city management, the departmental or institutional arrangements for this expertise, arrangements if any for sharing and pooling expertise
- how is information and technical expertise applied to identification of policy issues and in support to decision making
- how is information and technical expertise applied to support for policy implementation?

3. ***Decision Making, Policy Formulation and Policy Coordination***

- who is involved in the formulation of policies - what are the main organisations and groups with decision-making responsibility?
- how is policy *coordination* handled - who is responsible and how is it done? In particular, how are policies and decisions coordinated:
- across development sectors (among the various activity sectors discussed in chapter 2)
- across levels of government (local, regional, national)
- between public, private and popular sectors
- across space (between different areas of the city)
- over time (continuing policy coordination in the future)
- what are the decision-making roles of different organisations, within the public sector and also including those outside?

4. ***Policy Implementation***

- which are the main organisations responsible for implementation of public policies in the different sectors and subject areas of concern
- discuss how the city's policies are implemented using different instruments of implementation are used, such as:
  - public awareness and education
  - economic incentive mechanisms
  - regulatory mechanisms
  - strategic capital investment
  - annual budgeting
  - physical planning
- discuss how implementation is inspected and monitored, and what enforcement mechanisms are in place, under whose responsibility
- discuss to what extent plans and policies are in reality being implemented - what gaps are there between plans and actual results, what are the time-lags, and in what ways do these gaps arise.

When writing these four sub-sections, keep in mind the following general points, and try to include this information whenever possible:

- a possible difference between the *formally assigned* management responsibilities, authorities and tools - and the actual use that can be made of them in practice
- the *influence (usually informal) of social groups* in the urban environmental decision making process
- the *adequacy* in practice of the existing management structures and tools - how well they actually function in reality in terms of addressing the issues raised in Chapters 2 and 3
- the degree to which traditional administrative structures - with their very clearly separated (compartmentalised) professional or operational departments - cause problems of confusion, over-lap, lack of coordination, etc.

Finally, in the descriptions in this section, it should be remembered that there are dimensions, or levels of activity, in decision-making and policy formulation and implementation; these can be described generally as:

- Political
- Managerial/Administrative
- Operational/Technical

It may often be useful to differentiate among these dimensions when describing the various management structures - and especially management functions - of the city. For example, the information and technical expertise required for political decision-making is quite different from that required for operational implementation of the policies.

The number of pages in this second section (of Chapter 4) should be about five or six, with a maximum of seven pages in total.

An example of how this section was handled in an earlier Environmental Profile (from Lusaka, Zambia) is shown in the Annexes, section C6.

B7.4 Strengthening Urban & Environmental Management

This section discusses current (or planned) initiatives and efforts to strengthen the city's urban development and environmental management systems - to increase local abilities to plan, coordinate and manage sustainable urban development. In this section you should only discuss city management over-all, not detailed management arrangements for specific activity sectors, specific environmental resources or specific environmental hazards (as these were covered in Chapters 2 and 3).

The purpose is to highlight actions or proposals which may be working to solve some of the management difficulties identified in earlier parts of Chapter 4 (as well as those indicated in Chapters 2 and 3). If there are few such initiatives, then this section can be kept quite short.

The total number of pages of this section should be about three. As the first section of this chapter should be about five or six pages, the second section about the same, and the third section about three pages, the total amount of pages should not exceed sixteen.

The following box gives an example of section 4.3, taken from the Environmental Profile of Lusaka, Zambia.

EXAMPLE: STRENGTHENING MANAGEMENT ARRANGEMENTS

4.3.2 Strategies for Strengthening Management Arrangements

(I) *At the Technical Level*

The Local Government Support Project (LOGOSP), an initiative of the MLGH, launched in March, 1995 is a capacity-building project at the technical level. This is achieved at the technical level, by training council staff in the preparation of District Development Plan, (DDP) a strategic framework for guiding the financial and phasing of development.

The new Directorate of City Planning, established in March 1996 gives the LCC opportunity to recruit and retain qualified staff capable of handling the SLP and indeed, the general planning and management of the physical development of the city. It is anticipated that the department will be the centre of a modern computer-based data bank, from which stakeholders can draw information and guidance.

(ii) *At the Administrative/Managerial Level*

The suspension of the City Council was seen by many as an opportune time to institute profound administrative changes in the structure, to reflect the new functions the council is continually being called upon to perform, namely: urban management in an environmentally sustainable manner; the fight against urban crime and violence, through appropriate physical planning, street lighting and security policing; and poverty alleviation through social equity programmes to bring services and amenities to the disadvantage and marginalised majority living in the peri-urban fringes of the city. The lifting of this suspension, and therefore the restoration of the full council should still lead to a new culture of civic responsibility for managing the city's growth and development.

In this regard, the LCC's Human Resource Development (HRD) programme needs to be strengthened and actively supported by the MLHG. LOGOPS's capacity-building contributions do not extend to long-term human resource development; but through the Provincial Local Government Officer, it advises on training and recruitment of staff in specific fields.

So far, even though the LCC has no training policy to guide its staff development, it has managed to train available staff in courses ranging from Accountancy, and General Administration to post-graduate studies in Town and Country Planning. Apart from the lack of funds to train staff, LCC also faces the problem of high turnover, particularly of technical staff, suggesting the need for improvement in the conditions of service for such staff.

(iii) *At the Political Level*

The increasing attention being paid to the concept of stakeholder participation is a healthy indication of the effect of all the above reforms. This is good for the young multi-party democracy of this country, and as more and more citizens participate in the management of their local areas development processes, the more community self-reliance, develops. The Kamanga Residents Development Committee's work and achievements indicate the viability of this self-reliance and of the bottom-up approach to urban development planning and management. Nevertheless, government's financial and material support is still needed to enable the LCC to perform in an efficient and professional manner. Government could, for example, promptly remit to the LCC fees due to it, currently standing at K1/2 billion for Water alone.

One approach which has already been hinted by the President in December 1996 is to have a mayor or City Manager who will be elected through the ballot box, on his own merit and who would come to the City Hall with an agenda less clothed in political phrases. Another is for the establishment of an urban/ City Development Corporation whose board of directors could comprise City Council and Ministry officials and stakeholders, and which will plan and develop specific areas before handing such areas over to the LCC to manage.

B 8
Abbreviations, Glossary, Bibliography and Annexes

B8.1 List of Abbreviations

The text of the Environmental Profile will almost certainly use a number of abbreviations - for instance, using "NGO" to stand for "Non-Governmental Organisation". Most of these abbreviations will probably be well-known to professionals working in urban development or environmental management. However, for the benefit of other readers, many of whom may not be familiar with these abbreviations, there should be an explanatory list. This should simply list the abbreviations which have been used in the Environmental Profile, together with a statement of what the abbreviations stand for. This list should be made up after the main text of the EP has been completed, to ensure that all of the abbreviations have been included. The length of this list will depend upon how many abbreviations you have actually used in your Environmental Profile. The List of Abbreviations should normally be only one page in length.

The box below shows some of the commonly-used abbreviations; this is only a partial list, of course, which will have to be supplemented by the abbreviations which are specific to your city and your EP.

SAMPLE LIST OF ABBREVIATIONS
(Incomplete: commonly-used abbreviations only)

CBO	Community Based Organisation
CC	City Consultation
EP	Environmental Profile
EMIS	Environmental Management Information System
EPM	Environmental Planning & Management
GIS	Geographic Information System
NGO	Non-Governmental Organisation
PVO	Private Voluntary Organisation
SCP	Sustainable Cities Programme
TOR	Terms of Reference
UNCHS	United Nations Centre for Human Settlements
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme

Most of the terms phrases which are included in the List of Abbreviations will also be included in the Glossary.

B8.2 Glossary of Terms

A "Glossary" is a list of words or terms, with an explanation or elaboration of their meaning. Its purpose is to help explain the specific meaning of words or terms as they are used in the Environmental Profile. Because many words or terms will be unfamiliar to the readers - or will be used in a very particular way in the EP - it is equally helpful for technical and non-technical readers.

The words or terms to be included in the Glossary should probably include the following general categories:

- terms which have specific technical meaning in the context of the EP;
- terms which have general use among urban professionals but may be unfamiliar to a wider audience;
- terms which are specific to your city or local context.

It is important that the authors of the Environmental Profile prepare the Glossary, using their own understanding of the terms or words. The explanations given here (in section C1 and throughout the text of this Source Book) are general explanations, applicable to cities generally and originating in the English language. To be better understandable to people whose mother tongue is not English, and to be more comprehensible in the specific local context of your city, you should 'customise' the definitions and explanations to fit your local circumstances.

Section C1 of this Sourcebook provides a sample Glossary of Terms; it includes commonly-used terms which are likely to need explanation in the Environmental Profiles of most cities. It is not intended, however, as a complete Glossary; additional terms and words will certainly have to be added, to reflect the specifics of your city's situation - and to reflect the ideas and approaches which have been developed in your particular Environmental Profile.

The Glossary will normally be only one or two pages in length - maximum three.

B8.3 Bibliography

It is strongly recommended that the Environmental Profile should include a full Bibliography, which should identify all the documents relevant for preparation of the EP, those used for general and background information as well as those used to obtain particular data. In addition, the Bibliography should include documents which are directly useful for understanding the topics dealt with in the EP, that is, useful for understanding the general principles and experiences of urban environmental planning and management. The Bibliography of the EP will thus combine a List of References with a wider Reading List. In this form, it will provide a valuable resource for many different readers: the SCP project team, the members of the Working Groups, other stakeholders, provincial and national officials, etc.

Section C2 of this Sourcebook provides a basic Bibliography of key *general* documents which will be useful for all SCP cities. For a particular EP, however, the locally-relevant documents and sources should be added to this basic list.

There is no fixed length for a Bibliography, but it should normally take only one or two pages.

B8.4 Annexes to the Environmental Profile

Annexes to the Environmental Profile should be used for information which is too detailed or too lengthy to be included in the main text. (It is very important to keep the main text within the page limits indicated.) Annexes

can also provide supplementary information which is useful for but perhaps not directly relevant to one of the topics in the main text.

Statistical tables can be put into the Annexes, to provide the fuller data which support the observations and conclusions given in the main text. (Large statistical tables do not belong in the main text, which should only have summary tables.) Detailed maps, showing additional technical information which is not necessary for the main text, can also be put into the Annexes. Equally, complex organisation charts, or other diagrams, can also usefully be placed into the Annexes. Finally, depending upon the particular situation in your city, it may be useful to include additional information in an Annex concerning some particularly important local aspect.

Do not, however, over-load the Annexes. Resist the temptation to put extensive reference materials and data into the Annexes of the EP. Remember: the Environmental Profile is *not* an academic paper or a scientific treatise. It is a simplified working document, and it does *not* need to have massive amounts of supporting data and information. The total pages of Annexes should be kept as short as possible: ideally in the range of ten to fifteen, but certainly no more than twenty.

Part C

The Annexes: Examples, Illustrations and Supporting Materials

C1
Glossary - Explanation of Terms

As explained in section B8.2, a *Glossary* is a list of words or terms, in alphabetical order, with an explanation or elaboration of their meaning. Its purpose is to help explain the particular meaning of words or terms as they are used in the Environmental Profile.

The listing given here includes only terms and words which are commonly found in SCP-related documents such as the Environmental Profile. *This is not a complete Glossary.* In your EP you will have to add additional words and terms, to include those which are specific to your city and your local situation. In addition, you will need to express these explanations in a way which is readily comprehensible to your local readers; this may require you to somewhat revise, or at least supplement, the explanations given in this section.

Community Based Organisation (CBO):
These are organisations based in and working in one or more local communities (neighbourhoods or districts); they are normally private, charitable (non-profit) organisations which are run by and for the local community. Typically, they were created in response to some particular local need or situation - often related to the local environment - and they usually support a variety of specific local improvement actions (for instance, environmental up-grading, youth education, employment promotion, etc) which are generally undertaken by or with the local people.

City Consultation:
The City Consultation is a specific, and crucial, event within the SCP project process which prioritises issues, agrees on institutional framework for operationalising the project and galvanises political support. It occurs at the end of Phase One of the SCP project cycle: it brings together and builds on the work done during that Phase, consolidates social and political participation and support, and launches the SCP project into Phase Two. The Environmental Profile, in either its completed or its annotated form, will be one of the key inputs into the City Consultation and its preparations. (Volume 2 in this series of SCP Source Books provides detailed guidance on the organisation and running of the City Consultation.)

Environmental Management Information System (EMIS):
An EMIS is an organised process through which information relevant for environmental management is identified, generated, and utilised in a routine manner. It is a tool, when it becomes relatively functional, which directs and guides investment and city development along a sustainable path. EMIS in the SCP context is developed on the basis of a systematic spatial analysis of specific issues, geographic distribution of resources and related environmentaal sensitivities. It portrays spatial development options and opportunities which allow the prioritisation of development areas, the guidance and optimisation of investment and the factoring-in of long-term environmental costs in development. EMIS consists of layers of maps, spatial attributes, parameters and criteria for prioritisation; and 'rules' and development

conditions defined and negotiated by stakeholders to influence the development pattern of a city

Environmental Planning & Management (EPM):
This is a general term which refers to the over-all processes through which a city's environment is (or can be) managed. It emphasises the close inter-relationship between urban development and urban environment, and it stresses the crucial roles of economic, political and social situations. In relation to the SCP, the EPM process has been refined based on case study applications and developed into a general set of critical steps to strengthen cities in the effective management of urban development and the utilisation of environmental resources. (See also item 1 in the Bibliography, section C2.)

Environmental Hazard:
Environmental Hazards are events (disasters), primarily arising from the physical environment, which endanger the lives, health and livelihoods of urban populations. These disastrous events - floods, landslides, earthquakes, storms, etc. - can kill and maim people, destroy resources and property, and disrupt economic networks and social services. (For a fuller explanation, please refer to section B6.4, 'What Are Environmental Hazards?')

Environmental Resource:
In the context of the Environmental Profile, Environmental Resources are primarily those aspects arising from the physical world which are used (currently or potentially) to support urban life and development. This means air, water, land. (For a fuller explanation, please refer to section B-6.2, 'What Are Environmental Resources?')

Geographic Information System (GIS):
GIS is a general term which refers to an information system in which data is collected, stored and analysed in a spatial (geographical) framework. The GIS is normally a computer-based system; modern off-the-shelf software allow a basic GIS to be run on an ordinary PC. The data compiled and analysed in the GIS is focused specifically on information relevant for physical planning and environmental management. A mapping capability which could develop into GIS is an essential tool for implementing an SCP project. (See also EMIS in this Glossary)

Non-Governmental Organisation (NGO):
The term NGO is applied to a wide range of organisations which are not established by or operated by government. NGOs are usually private, non-profit organisations which are run by their members. Typically, an NGO is concerned with one particular area of activity: women's rights, education, environmental protection, small-scale employment, etc. Most NGOs are local in scope, but some are regional, national or international, with active local/national branches. Some NGOs are even international in scope. NGOs often acquire considerable expertise and experience in their particular areas of activity, and some employ professionals or specialists to manage their work.

Stakeholder:
In the context of the SCP, this word is applied to groups, organisations and individuals who have an important 'stake' in the process of urban environmental management. The term stakeholders includes both formal and informal organisations and groups, and covers groups in the public sector but also in the private sector and in the community (or popular) sector. (See section B7.2 for a fuller discussion of stakeholders.)

Sustainable Cities Programme (SCP):
The Sustainable Cities Programme (SCP) is a global programme of the United Nations Centre for Human Settlements (UNCHS - Habitat) jointly implemented with the United Nations Environment Programme (UNEP). It is the leading technical cooperation programme in the field of urban environmental planning and management, and as such it is the principal activity of the United Nations system for operationalising Local Agenda 21 and sustainable urban development. (See also section C8.)

Terms of Reference (TOR):
A 'Terms of Reference' is a document which specifies in a clear and systematic way the work which is to be done by a consultant or sub-contractor. In the UN system, as in most large international organisations, it is necessary to prepare a Terms of Reference, which is then used as the basis for identifying suitable consultants/contractors, for issuing contract, and for supervising and monitoring the work done. (See section C-5 for an example.)

C2
Information Sources for Preparing the EP

The following publications are important sources for understanding environmental planning and management in general - and for understanding the SCP process in particular. All staff concerned with an SCP city project - and all persons concerned with preparation of an Environmental Profile - should read and make use of these documents.

Key EPM & SCP Documents

Sustainable Cities and Local Governance: The Sustainable Cities Programme
Written and published by the United Nations Centre for Human Settlements (Habitat) and the United Nations Environment Programme (UNEP), Nairobi, Kenya, 1997

The SCP Process Activities: A Snapshot of what they are and how they are implemented
Written and published by the United Nations Centre for Human Settlements (Habitat) and the United Nations Environment Programme (UNEP), Nairobi, Kenya, 1998

The Sustainable Cities Programme: Approach and Implementation
Written and published by the United Nations Centre for Human Settlements (Habitat), Nairobi, Kenya, 2nd edition 1998

The SCP Source Book Series
Written and published by the United Nations Centre for Human Settlements (Habitat) and the United Nations Environment Programme (UNEP), Nairobi, Kenya, 1999

The Environmental Planning and Management (EPM) Source Book.
Volume 1: *Implementing the Urban Environment Agenda*
Volume 2: *City Experiences and International Support*
Volume 3: *The UEF Directory*
Written and published by the United Nations Centre for Human Settlements (Habitat) and the United Nations Environment Programme (UNEP), Nairobi, Kenya, 1997

Towards Environmental Strategies for Cities: Policy Considerations for Urban Environmental Management in Developing Countries.
By Carl Bartone, Janis Bernstein, Josef Leitmann and Jochen Eigen
Published for the Urban Management Programme by the World Bank, Washington, D.C., USA, 1994

Environmental Guidelines for Settlements Planning and Management:
Volume 1: Institutionalising Environmental Planning and Management for Settlements Development
Volume 2: Environmental Considerations in Metropolitan Planning and Management
Volume 3: *Environmental Considerations in Regional Planning and Management*

Prepared and published by the United Nations Centre for Human Settlements (Habitat), and United Nations Environment Programme (UNEP), Nairobi, Kenya, 1987

UNCHS (Habitat) and UNEP Join Forces on Urban Environment
Briefing Note prepared for the United Nations Commission on Human Settlements (CHS15) and the Governing Council of UNEP (GC18)
Prepared by the United Nations Centre for Human Settlements (UNCHS), Nairobi, Kenya, 1995

Other Important Documents

World Development Report 1992: Development and the Environment
Prepared and published by the World Bank, Washington, D.C., USA, 1992

Sustainable Human Settlements Development: Implementing Agenda 21.
Prepared by the United Nations Centre for Human Settlements, for the United Nations Commission on Sustainable Development, Nairobi, Kenya, 1994

An Urbanising World: Global Report on Human Settlements
Prepared by the United Nations Centre for Human Settlements.
Published by Oxford University Press, 1996

World Resources 1996-97: The Urban Environment
Prepared by the World Resources Institute
Published by Oxford University Press, 1996

World Without End: Economics, Environment and Sustainable Development
by David W. Pearce and Jeremy J. Warford
Published by Oxford University Press, for the World Bank, 1993

The Habitat Agenda: Goals and Principles, Commitments, and Global Plan of Action
Agreed at the United Nations Conference on Human Settlements (Habitat II), Istanbul, Turkey, June 1996

The Human Face of the Urban Environment: Proceedings of the Second Annual World Bank Conference on Environmentally Sustainable Development.
Ismail Serageldin, Michael A. Cohen, and K.C. Sivaramakrishnan, Editors
Published by The World Bank, Washington, D.C., USA, 1995

C3
Sample Guidelines for Briefing Project Partners

As part of the process of preparing the Environmental Profile, it is important to have regular meetings with a wide range of Project Partners (stakeholders). The purpose of these meetings is, *first*, to obtain their cooperation in helping to assemble the data and information needed for the Environmental Profile, and *second*, to brief them on the SCP project, on the activities of the SCP process, and on their potential role in that process. (Refer to section A2 of the main text .)

Preparation.
The SCP project team should prepare themselves carefully for these meetings, as the success of the EP - and of Phase One of the SCP project - depends heavily upon the success of such meetings. Therefore, before holding the meetings, the project staff should read (or re-read) the key SCP documents (as noted in section C2), including especially this Source Book on the Environmental Profile, to ensure they are familiar with the SCP concepts and activities.

It is also important to prepare in advance two types of supporting materials:
(1) Brief written materials suitable to leave behind with the persons visited, to follow up the verbal presentation; this might include some sections of Part A of this Source Book, for example sections A1 ('The SCP Process'), A2 ('Nature and Role of the Environmental Profile'), and A3 ('The Content of the Environmental Profile');
(2) Presentational materials to use during the meeting; this would include simple summary sheets with main points, to be used as over-heads (when a projector is available) or even to be used in printed form by the meeting participants.

Remember, many people attending the meetings will not be aware even of the existence of the SCP project, and those who are aware will probably have very little understanding of what it is and what it seeks to do. These meetings are your key opportunity for raising awareness and spreading knowledge about the SCP project. In addition, experience shows that once potential partners understand the nature and purpose of the SCP project, they are much more willing to cooperate by sharing information and data and by more active participation.

Guidelines for Meeting with Project Partners:
A well-organised and well-focussed meeting will allow you to collect the required information for the EP, and at the same time to get another partner on board for the SCP Project. Below are some guidelines to assist in organising your meetings.

(1) Begin by explaining the meeting's objectives, which are; (a) to brief them about the SCP project and process, (b) to clarify their potential role in the project, and (c) to gain their cooperation in gathering information needed for the EP.

(2) You should then explain briefly the background and nature of the SCP project in your city. You should explain the general principles of

the SCP approach (stakeholder involvement, bottom-up, issue- specific, etc) and the over-all process of the SCP project (the EP, followed by the City Consultation, working groups, etc). Make sure they understand how the SCP project is organised, emphasising the support and involvement of the local government and other groups.

(3) In somewhat more detail, give a clear and simple explanation of the Environmental Profile itself. Emphasise the key objectives of the EP, which include:
   (a) establishing a common source of information for all participants in the SCP Project,
   (b) identifying priority environmental issues,
   (c) identifying key actors and institutions to be involved, and
   (d) identifying institutional issues. Also, explain how the EP will serve as a background document of the City Consultation (and other activities) which will follow after the EP has been prepared.

(4) Explain clearly the central concepts and organisation of the EP (for instance, using the material from section B-1 of this Source Book), emphasising the environment-development relationship, the identification of environmental resources, environmental hazards, and their interactions with activity sectors. Show how this structure relates to the information which is needed, and show how the information which you are requesting from them will be used to prepare the Environmental Profile.

(5) Briefly describe the City Consultation and the activities concerning its preparation, showing how the Consultation fits into the over-all process of the SCP project - and showing how the current work on preparation of the EP will fit into the City Consultation.

(6) Looking further ahead, discuss briefly the activities which will take place in Phase Two of the SCP project, after the City Consultation. Mention only briefly how this will include the establishment of issue-specific Working Groups and their typical activities in Phase Two.

(7) Explain carefully (but without too much detail) the role which project partners and stakeholders (such as those attending the meeting) can play in the SCP project, covering such points as:
   - sharing information and providing the particular ideas and perspectives of many different institutions organizations, interest groups, etc.;
   - participating in the sharing of views and the cross-sectoral analysis of issues provided by the EP;
   - becoming an active participant in the City Consultation;
   - participating in the activities following the consultation, particularly in the Working Groups, and thus having an important influence on the continuing process of evolving solutions to the city's environmental problems.

(8) Briefly explain why those present should be interested in being an active partner in the SCP project (using one or more of the following reasons):

- Stakeholders are affected directly by the environmental issues addressed by the SCP project; therefore, participation in the process will ensure that these issues are addressed in a manner which takes into account the partner's interests.
- Through their various activities, stakeholders affect and are affected by environmental issues; initiatives undertaken to deal with environmental issues may have impacts (positive or negative) on the stakeholders - and hence it is better to be actively involved in the discussion about such initiatives.
- Stakeholders possess valuable information and/or knowledge that is essential to a good overall understanding of the issue; it is important that each stakeholder's ideas and views and information are fully known and considered.
- A stakeholder may control or influence one or more of the various possible implementation instruments, and therefore close involvement in the SCP process will ensure that such instruments are used fully and properly and to best advantage.
- The coordination mechanisms and processes built up through the Working Groups will allow each project partner to perform his/her normal duties in a more effective manner.

(9) Finally, always remember to *follow-up* the meetings. Send a letter or note to those attending, to thank them for their participation. At the same time, send along any additional documents or brochures which you think might be helpful. And for most of the potential project partners, it will be valuable to set up follow-up meetings, to be held soon after the original meeting, because the message normally requires considerable repetition and reinforcement. *A single meeting is almost never sufficient.*

C4
Sample Letter to Accompany the Environmental Profile

When distributing the EP, you should always attach a letter to explain briefly what is the SCP project and what is the role of the EP. As an example, the letter used in Ibadan (Nigeria) is shown below.

MANAGING THE SUSTAINABLE / HEALTHY GROWTH AND DEVELOPMENT OF IBADAN

date: .....

Dear .....

As you may be aware, the Ibadan Association of Local Governments in collaboration with the Oyo State Ministry of Lands, Housing and Physical Planning has commenced a review of the growth and development of the Ibadan metropolitan area, with assistance from the United Nations Centre for Human Settlements (Habitat), through a project entitled 'Managing the Sustainable/Healthy Growth and Development of Ibadan'. The overall aim is to build up the capacity of the Local Governments and their partners in Federal and State Government, the parastals, private and popular sectors to more effectively manage the growth and development of the City on a sustainable basis.

On behalf of the incoming project management team, it gives me great pleasure to forward to you as enclosed a copy of the Ibadan City Environmental Profile. The distribution of this Environmental Profile represents the end of the preparatory stage, and provides background for an upcoming City Consultation on Environmental Issues.

This Profile has evolved from wide ranging discussions both within the Local Governments and among their principal partners in the public, private and popular sectors who share responsibilities in urban management functions. Its contents must not be considered as final. Not only is the process of urbanization dynamic, but the authors do not claim to have gained access to all available data. Your information to add and feedback is therefore strongly encouraged as a first step in your participation as a key stakeholder, in this process of managing the sustainable growth and development of our city.

C5
Sample Terms of Reference for EP Preparation

Below is included a sample terms of Reference (TOR) to be used by the project when hiring consultants/contractors to assist in preparing the EP.

CONSULTANCY TO ASSIST IN PREPARING A CITY ENVIRONMENTAL PROFILE

TERMS OF REFERENCE

Country: .....

Project Title: .....

Project Number: .....

Expected starting date: .....

Duration: .....

1. BACKGROUND

General

The Environmental Profile of *City X* is part of the Sustainable *City X* Project undertaken by the Government of *Country Y*, the United Nations Development Programme (UNDP) and the United Nations Centre for Human Settlements (Habitat) as the executing agency as part of the global "Sustainable Cities Programme" (SCP). The SCP is Habitat's facility for bringing to practical application urban management initiatives based on the Habitat Agenda and Agenda 21.

Institutional Responsibility in *Country Y* for this project is expected to lie primarily with the *City X* City Council, which is responsible for the management of the city's current affairs, development, and growth, and which is expected to act as the Government Implementing Agency for the city demonstration project. In this task, the City Council is anticipated to receive technical support from Government agencies notably such as ministries of Planning, Environment, Local Government, Land, Housing, Economic Development, Transport, Health, Roads Authorities, Water Authorities, etcetera.

The Sustainable *City X* Project will support environmentally sustainable development and growth by (a) strengthening local capacity to plan, coordinate, and manage environment - development interactions in a framework of broad-based participatory systems, and (b) by promoting integrated and dynamically updated development plans and sector investment strategies.

The ultimate beneficiaries of the Sustainable Cities Projects are the general population, especially the urban poor, and the business community of the cities and the adjoining sub-regions. They will benefit through improved environmental conditions, access to affordable land for residential and business use, reduced costs of living, more equitable socio-economic development and growth, reduced transport costs, and greater awareness of their individual role in the planning and management of the city and it's environs. Improved conditions in the city will also benefit the wider region as urban productivity increases and the delivery of urban services becomes more efficient.

As part of the SCP process - and the project document - an environmental profile for the *city of ...* will be prepared. This Terms of Reference will assist in the preparation of the *City X* Environmental Profile.

Environmental Profile

The Environmental Profile is designed to highlight priority issues within the context of environment-development interactions. Unlike other sectoral documents, the Environmental Profile should be prepared with the full understanding and active involvement of all stakeholders. The interactions and new and better understanding of issues created as the result of stakeholder involvement during the process of its preparation are as important as the final document itself. This process of joint effort and involvement of stakeholders will not end with the 'completion' of the Profile. In fact, one of the Consultant's duties will be to explore opportunities and institutional mechanisms necessary for keeping the Profile constantly improved, enriched and updated.

The Profile is not meant to describe in a comprehensive manner the developmental, environmental, institutional set-up of the city. Rather, its objective is to synthesise the available knowledge on the subject. The consultant(s) will collect this information and organise it according to the way the Profile is designed and structured. When information does not exist or is not accessible, the consultant(s) should state such gaps in the Profile.

More detailed information about the Environment Profile can be found in the SCP Source Book series, Volume 1: Preparing the Environment Profile.

2. ASSIGNMENT

The Consultant will be responsible for preparing an Environmental Profile for *City X*. The preparation of the Profile will generally follow the generic outline developed in the SCP Source Book series Volume I. However, the Consultant, in consultation with the project leader and other stakeholders, can adapt or modify the outline to suit the local circumstances.

Purpose

To coordinate and assist in the preparation of the *City X* Environmental Profile. The assignment should be conducted in close cooperation with the project team of the Sustainable *City X* Project and the SCP core team in Nairobi.

Consultant

The tasks outlined in this Terms of Reference will be conducted by.....

Duration

The assignment has to be completed in *... work months*. The assignment will be *spread over ... calender months*, starting on the first week of *month-year* and finishing it before *month-year.*

Preliminary Programme of Activities

Stage One
First *familiarisation* with the SCP approach is necessary. This can be done through talking with involved persons and through reading documentation about the EPM/ SCP process (available from the SCP core team in Nairobi). Environmental Profiles from other SCP cities should be carefully studied, as well as Volume 1 of the SCP Source Book Series: *Preparing the Environmental Profile*. Other SCP cities can be contacted to obtain their experiences.

Stage Two
A *work plan* for the production of the EP will be prepared, including how it will be prepared, the time frame and the outputs to be delivered. This work plan will be discussed with the Sustainable *City X* Project project team and with the SCP core team in Nairobi.

Stage Three
An *outline* (table of content) will be prepared. A copy of the outline of the EP of *City X* should be sent for review and comments to the Sustainable *City X* Project project team and to the SCP core team in Nairobi.

Stage Four
The outline will be expanded into an *annotated outline*, taking into consideration the feedback of the project team of Sustainable *City X* Project and the SCP core team. The annotated outline is a document of about 10-15 pages in which each paragraph is briefly discussed in a few lines, using the headings of the EP to be produced. The annotated outline should be sent to the project team and the SCP core team in Nairobi.

Stage Five
Based on the annotated outline and the feedback received, the *draft* text will be prepared. The draft, again, be sent to the project team and the SCP core team in Nairobi.

Stage Six
Finalise the EP, which includes incorporating feedback of the project team and the SCP core team.

The EP will include the position of the various activity sectors/ stakeholders in the city. It is essential that interviews are conducted with all -major- stakeholders. As the EP is the first step in the process, the contacts established with the stakeholders are very important and each stakeholder should be briefed using the *Guidelines for the Briefing of Project Partners* included in Volume 1 of the SCP Source Book Series: *Preparing the Environmental Profile*

Outputs to be Delivered

1. Outline

2. Annotated outline

3. Draft Environmental Profile

4. Environmental Profile

All reports will be prepared using standard work processing software such as WordPerfect 6.x / Word 6 and will be transmitted in paper copies. The final product, the *City X* Environmental Profile, will also be delivered in electronic format (3,5" diskette).

Duties

Preparation of the EP will involve meeting with the city's stakeholders to collect information, inform them about the Sustainable *City X* Project and to involve them in the project. Stakeholders are those affected by the issues addressed and the strategies to be developed, those whose cooperation is required for the implementation of the strategies, and those who have relevant information and expertise. This will include actors in urban development such as first and foremost municipal officials in *City X* City Council, Central Government agencies responsible for urban development, Ministries of Interior and Local Government, Works & Housing and Natural Resource Management; specialised and parastatal agencies such as those responsible for public works, for transportation, etc.; the business community; NGOs and community groups; research institutions and local consultants; External Support Agencies and other relevant project teams. Aside from information collection, these meetings

should also be to convey a sense of ownership to potential future project participants by discussing SCP concepts and anticipated results; SCP benefits and possible roles for participants; issues and priorities to be addressed; potential participants linkages with other past, on-going and planned projects, project approaches and implementation arrangements; etc. (see for more details Volume 1 of the SCP Source Book Series: *Preparing the Environmental Profile*). These meetings will also give an opportunity to identify specialists and experts and assess their capacity to contribute to the project.

The following project principles should be emphasised from the outset:

- emphasis on the environmental dimension of urban development and management;
- emphasis on broad based participation in urban planning and management based on consultative approaches, conflict resolution, negotiated rule making, etc., including the public, private and community sectors;
- process-orientation and capacity building, with continuing programming as the project unfolds and lessons are learned;
- special attention on defining roles of development actors in local vs. central government, public vs. private sectors, formal vs. informal sectors, etc;
- the role of the SCP-EPM process as a project identification and development facility by helping to identify needs, establish priorities and define strategies for the use of anticipated investments;
- close cooperation with other external support agencies in *City X*, including funding institutions;
- the significance of the SCP projects as demonstration activities with systematic replication of the lessons learned at national, regional, and global levels.

Other important information, such as the lay-out of the EP, a detailed discussion on environment-development interaction, the audience of the EP, the use of tables an maps, etcetera, is discussed in detail in Volume 1 of the SCP Source Book Series: *Preparing the Environmental Profile,* which should be used by the consultant as the handbook to prepare the *City X* Environmental Profile.

C6
Extracts from Previous Environmental Profiles

C6.1 Example of Chapter 1 (City Introduction)

EXAMPLE OF CITY INTRODUCTION

This is taken from the Free Town (Sierra Leone) Environmental Profile; only the main text is included here - tables and maps have not been included.

1.0 **CITY INTRODUCTION**

1.1 **Location**

The city of Freetown is situated on the West Coast of Africa and on the left bank of the Sierra Leone River, an estuary formed by the Rooked, Bunt River, and the Port Look Greek. It extends from Juba in the South-West to Allen Town in the East, and gradually rises south from the river which forms the northern boundary to the peninsular hills at heights between 1000 and 15000 metres. The city covers an area of 8,100 ha and lies between latitudes 8 27'37''N and 13 26'00''N. Freetown being the capital city is national in character with the only harbour serving as the main entry point for almost all imported materials and exit for export. With the withdrawal of the railway services in 1963, the access to the interior of Sierra Leone is by road through Waterloo which is within the city's influences. The location of international airport at Lungi accessible by a ferry system has also extended the city's influence to this northern town. Fig. 1 shows the location of Freetown in relation to the other areas in the country.

1.2 **History**

Conquered in 1447 by the Portuguese Freetown was used as a port which attracted European Traders long before the first freed slaves known as the Granville Sharp settlers arrived under Captain Tompson in 1787. The series of small bays provided some degree of shelter for early sailing ships. The Granville Town settlement was established around where the state house now stands and Freetwon became a British Colony administered by the Sierra Leone Company. These settlers were followed in 1792 by the Nova Scotians of African decent from across the Atlantic, and much later by the Maroons from Jamaica and the Kroo immigrant workers who established a settlement at the Kroo Bay. Other settlers from the neighboring countries notably the Fula and Madinka, and the Temne and Mende from the interior were attracted by business and employment. Officers of the Sierra Leone Company, Traders and Missionaries from Europe also came in. The population grew rapidly and became heterogeneous in character which contrasted strongly with the traditional surrounding rural areas. In 1896, the hinterland was declared a protectorate and in 1961 the country gained independence with the first Sierra Leone Prime Minister. The country has since independence gone through a multi-party and one party democracy with two military rules in between until the rebel war broke out in 1991 which brought in another military rule. In April 19996 there was a smooth transfer of power to an elected civilian government.

1.3 **Administrative Boundaries**

Since the 1893 ordinance which created the municipality of Freetown with three wards, East Central and West Wards, Freetown has maintained these divisions, even though it has expanded. It now has eight wards, three wards in each of the Eastern and Western District and two wards in the central district (Fig. 2).

1.4 **Geographical Setting**

Freetown is characterized by various land forms of which the five basic ones are:

(I) Estuary and mud flats highly productive and provides an important source of fish and shellfish.

(ii) Large areas of mangrove swamps found along the eastern coastal area, and in the Lumley and Levuma Beach areas. These mangrove swamps provide sheltered nursery areas for young fish small mammals and birds.

(iii) Tropical grasslands of the coastal plains and lower hillslope which are narrow and limit development in depth.

(iv) Tropical rain forest of the upper hills which covers about 75% of the western peninsular reserve now gazetted and with water catchment, a primary source of water for the Guma Dam which supplies Freetown.

(v) Valleys and streams which run from the hills and terminate in several small bays. These valleys provide land for housing and vegetable gardening for mainly low-income families. Fig. 3 shows these district land forms whilst Fig. 4 shows the general topographical areas.

1.5 **Climate**

The climate of Freetown is charactered by high rainfall especially during the Monsoon season from May to October with varying intensity and frequency from an annual rainfall of 2945mm at Falcon Bridge to over 6600mm in the upper hills of the Guma Dam catchment. Rainfall along the west coast is significantly higher than along the northern and eastern coastal areas. Freetown has warm to high temperatures throughout the year, and high humidity except from November to April when the north-easterly wind (hamattan) reduces humidity levels and often carries large amount of dust from the Sahara. Wind speeds are often low and sometimes the air is calm and pollutants discharged into the air are trapped in the layer especially in sheltered valley areas (Table 1).

1.6 **Economic Background**

The economy of Freetown has suffered a sharp decline in the decades in line with the national economy even though Freetown remains the centre for economic activities and administration. It has the only harbour which is a major source of revenue for the country and is the main entry point for almost all imported materials and exit for exports. Freetown has the highest concentration of industries with the construction industry being dominant, accounting for about 90% of the national total value, about 1.4% of the GDP. This sector of industry is very important as the success of development endeavor in general and the growth of the housing sector in particular depend on its expansion and performance.

The introduction of the structural reforms in 1989 which include the libralisation of trade, decontrol of exchange rate and removal of government subsidies are expected to promote private sector investment and business activities for the economy to recover. The five year rebel war has had its effect, with increase in migration to Freetown and a considerable decline in resource from war affected areas.

1.7 **Socio-economic Setting**

The present population is estimated at about 1,125,000 of which 150,000 to 2000,000 are displaced from the war affected areas. This is more than twice the population in 1985 (469,776). Freetown remains the primate city with more than 20% of the national population and over 50% of the country's urban population. It accounts for more than 84% of all public sector employees. Over 50% of the population is below the poverty line, and low incomes in the formal sector push employees in this sector on to part-time jobs in the informal sector where earnings are higher. Policies and measures adopted as part of the structural reforms compounded by the effects of the rebel war have adverselyaffected a large number of the population in Freetown and in particular specific groups in terms of employment and income generation.

The improvement of the informal sector is exemplified by its employment potential, employing twice as much of the labour force as the formal sector, and accounts for about 90% of all private sector activities. The informal sector also provides opportunities for a large number of the displaced, most of whom are engaged in street trading. The formal sector however, remains a major attraction for migrants.

C6.2 Example of description of city management system (Section 4.2 of the EP)

The following example is taken from the Lusaka (Zambia) EP

4.2 FUNCTIONS OF DEVELOPMENT MANAGEMENT

4.2.1 INFORMATION AND TECHNICAL SUPPORT

(i) Information Collection, Management and Use

Information required for the management of Lusaka's development activities is obtainable from a wide range of sources, from government departments parastatal companies and institutions, to the various directorates of the LCC itself, and to provide consultants and organisations. Accessibility to all these data is, however, limited either because of departmental confidentiality, or the lack of modern electronic archiving systems to allow for easy storage transmission and retrieval of data to those who need it. Nevertheless, the increasing application of Geographic Information Systems (GIS) in such institutions as the Central Statistical Office, the Lands and Surveyor-General's Departments, the Environmental Council of Zambia, the University of Zambia and a number of private consulting firms in the fields of urban planning, engineering, business and information systems, indicate a healthy sign that these issues are being addressed.

(ii) Identification of Policy Issues and Support to Decision-making

Two methods exist in the identification of Policy issues affecting the management of the growth of the city: the top-down approach, practised by all the central government ministries and departments in the performance of their respective "functional planning" duties. At the local level, the approach is bottom-up. Mayor receives submissions on policy issues from the ward councillor, Area Residents Development Committees and the District Development Coordinating Committees (DDCC). The mayor after consultations with the Town Clerk and various Directors of the LCC, brings the matter to the full Council for a decision.

(iii) Support to Policy Implementation

Following the successful identification of important policy issues, support to implementation comes from within the Council. This has come about because, since 1990, government's grants to the LCC, and to other local authorities as well, has been progressively dwindling to the extent that by the 1995-96 financial year it had virtually dried up. Indeed, the LCC's estimates of expenditure for the year had still not been approved as at August, 1996. In such circumstances, the continuing perception by the public of the Council as a "Provider" and "Implementor" rather than facilitator of development could be unfair and misplaced.

4.2.2 POLICY COORDINATION FUNCTIONS

(i) Across Development Sectors

(a) Municipal Management

The Ministry of Local Government and Housing MLGH) is the overall national authority for local administration, as provided under the Local Government Act of 1991, which also confers a wide range of functions on the LCC; from the maintenance of law and order, enhancement of public health, education, social, cultural and recreational life of its citizens; relief of poverty and distress through the direct provision of services for which it can charge user-and licence fees, personal as well as property rates and to formulate bye-laws. However, all these functions are permissive and, therefore, the LCC is not obliged to perform them. Many of these functions are also performed by some line Ministries and departments, thus creating of a lot of overlapping of responsibilities.

■ **Water and Sewerage Management** is under the Lusaka Water and Sewerage Company (LWSC) a wholly owned LCC commercial entity, which unfortunately has no control

over the exploitation of the ground water sources from which it draws about 50% of its supply. Neither the sinking of boreholes nor the digging of wells in some of the planned and peri-urban areas is controlled by the LCC or the LWSC. Regarding surface water usage, LWSC is subject to control by the Department of Water Affairs, like any other user in respect of the quantity of water it can draw per day under its "water-rights" licence. The same goes for sanitation: with only a third of the built up area of then the sewerage system, the construction of pit latrines, particularly in the peri-urban areas, is uncontrolled, and thus posing a danger of pollution to water sources.

■ **Surface Drainage and Flood Control** is the responsibility of the Roads Section of the Engineering Services Directorate. This responsibility does not extend to beyond the built up areas of the city; and, indeed repeated attempts so far at drainage programmes after every rainy season point to the futility of such exercises, if not carried out on a district scale.

■ **Solid Waste Management and Public Health**, the Directorate of public health is responsible for this and a wide range of functions distributed among its six sections as follows:

Food Section, dealing with bars restaurants and hotels on one hand, and butcheries, bakeries and food processing factories on the other; but not with licensing, particularly where manufacturing or processing is concerned, since the Ministry of Commerce Trade and industry is the authorising body.

District Inspections, dealing with the inspection of other business premises, and with detection and eradication of nuisances;

Public Cleansing, dealing with solid waste management, and rodent and pest control;

Funerals which deals with the maintenance of cemeteries, registration of births and deaths;

Infections Diseases, dealing with prevention and containment measures; and

Health Education, The Ministry of Health now runs all urban clinics which used to be under this department and has taken over the education functions of this Directorate.

Trade and Commerce falls under the Directorate of Financial Services whose responsibilities include the issuing of trading and hawkers licenses, the administration of personal levies and property rates, the valuation of properties for rating or other purposes and the collection of market tolls, etc. It also collates and coordinates the annual estimates of expenditure of all the departments of the Council, and generally managing the Council's Financial matters. The actual involvement of the Council in commercial undertakings has taken a back-stage role in this era of free-market economics and privatisation. some of its functions, like road licence fees, have also been taken away from the department, thus further exacerbating the already precarious financial state of the Council.

Roads and Road Transport falls under the responsibility of the Directorate of Engineering Services, which is also responsible for the design, construction and maintenance of all Councils Capital projects and infra structural services houses, offices buildings, parks and gardens, street lighting, roads, bridges an footpaths, water and sewerage (for design of service lines and quality-control services only), etc. Maintenance of roads, bus shelters and other infrastructure has been the scorn of the citizenry, due to lack of funds and manpower. Public road transport is not run by the council.

Housing and Urban Land are managed by the Directorate of Housing and Social Services, and the Directorate of Legal Services, respectively the former's responsibilities also include the provision, control, and management of libraries and museums; cemeteries, mortuaries, and crematoria; and educational facilities such as vocational centres and domestic science centres. With the launching of the National Housing Policy, and the sale of most of the Council's housing stock the department will have to re-align its priorities to deal more efficiently with the provision

of other services such as, education, which is currently limited to nursery schools; the Ministry of Education retains responsibility for primary, basic and secondary and tertiary education. Again, it is only urban land which is head-leased to the Council that the Directorate of Legal services controls and manages; all other land is controlled and managed by the Commissioner of Lands. The planning of urban land is of course the responsibility of the Directorate of City Planning, while the servicing is the responsibility of the DES.

(b) Environmental Management

The Ministry of Environment and Natural Resources is the government body charged with the responsibility of managing the country's environment, by the provisions of the national Environmental Action Plan, and through its operating arm, the Environmental Council of Zambia (ECZ). The Ministry functions are briefly: (a) to arrest and reverse environmental degradation; (b) to increase public awareness on environmental issues buying out educational and information programmes; (c) to integrate the rational management and use of human and natural resources into socioeconomic development planning; and (d) to infuse environmental considerations into the planning, implementation, and review of major development projects

This gives the ECZ a much greater leverage on the activities of all development sectors than even the LCC has: it has the power of representation on many bodies and organisations, and makes regulations on environmental matters. It *advises* planning authorities including the LCC itself on the contents of Environmental Impact Analysis (EA) if the planning authority demands it from a developer.

(c) Financial Management

Until 1992, the Ministry of Finance, through its Economic Planning Unit (formerly the National Development Planning Commission, NCDP) decided on project proposals within a national framework, and allocate funds after Cabinet and Parliamentary approvals, to the and the City Council, through the Ministry of Local Government and Housing. This grant was based on a 35% of sales tax, allocated to local authorities as a whole. Since 1992, however, the government has gradually withdrawn its grants to all councils, as shown in the table below;

Table: 4.2.2 (I)c; Government specific Grants to Local Authorities 1987-1993 (In thousand Kwatchas)

Year	Sales Tax Revenue	Local Authority	%	35% Sales Tax
1987	292,495	100,000	34	103.073
1988	380,000	140,000	37	133,000
1989	760,000	160,000	21	266,000
1990	1,550,000	400,000	26	542,000
1991	4,000,000	900,000	22	1,400,000
1992	9,200,000	837,000	9	3,220,000
1993	26,617,00	1,206,000	4	9,315,950

Source: Financing Local Government. MLGH/ODA, LOGOSP, September 1994

Other sources of revenue to the LCC have also dwindled. A public steeped in the socialist belief that the Council is a provider, rather than a facilitator, of development, was unwilling to pay its levies and other user charges; in this regard, some central government institutions are the greatest culprits. Poor planning and distribution, and the withdrawal of some licensing fees such as Road user Taxes, already noted, has left the LCC starved of funds. Other financial actors include the Development Bank of Zambia, the Zambia National Provident Fund; the Zambia State Insurance Corporation; the Credit and Savings Bank (formerly the post Office Savings Bank)., the Zambia National Commercial Bank, and the private banks and financial institutions such as foreign exchange bureau which have sprung up following the liberalisation of the economy since 1991: This also brought in its wake realistic market-determined interest

rates, peaking at one time at 138%. In such high-inflation circumstances, borrowing to finance projects have become impossible for the Council.

It is this deteriorating situation that led the MLGH to commission a study on the financing of Local government, with the principal aim of proposing a structure of financing that will adequately pay for a minimum level of service. The report of this study, the "Peter Tyrie Report", makes a number of important recommendations based on extrapolations of costs and revenues, population and other social indicators, to produce a formula which could help in the distribution of grants to the LCC and other local authorities.

(ii) Policy Coordination Across Levels of Government

In terms of co-ordination, the Ministry of Local Government plays the role of a centre pivot between two levels of administration: the top-down approach in which the ministry is responsible for implementing national policy; and the bottom-up approach in which it gives support and assistance to local initiatives. However, other line ministries, pursuing their separate "functional planning". activities and who do not have such pivotal role in relation to the City Council, tend to have their programmes diluted at the City level by. the latter's. incapacity to implement programmes. Again, the overemphasised role of the parastatal sector, and the financially starved City Council, as noted above, underline the latter's inability to manage the City's problems adequately

(iii) Policy Coordination Functions between the Public, Private and Popular Sectors of Society

The new political dispensation with its liberal economics, and privatisation of the government's role in the market system has put emphasis on the private and popular sectors as engines of change at the local level. Non-governmental organisations (NGO's) and Community-based Organisations (CBO's) are now in the forefront in local initiatives to improve the quality of life of local residents. However, much better results can be achieved if the LCC could provide guidance 'n the form of a strategic plan, against which local needs could be identified and matched against the activities of the NGO's and CBO'S.

(iv) Policy Coordination Functions Across Space and Time

Land-use planning in the city is the responsibility of the Directorate Of City Planning, but its effectiveness in co-ordinating policy across development sectors is minimal. Firstly, the - geographic limitation of the city planning proposals makes it ineffective in a regional context secondly, central government ministries are not subject to town planning controls. so that plans for development projects are not submitted to the LCC for writing and approval, thus losing the opportunity for co-ordination thirdly, utility undertakers also have uncoordinated programmes of work, so that, for example the opening up of roads for one's service-line installations comes at the heels of the completion from another's along the same route. Fourthly individual sectoral investments are undertaken without reference to citywide demand projections, and therefore, loses the opportunity to mobilise resources to address specific issues such as inadequate housing, road transport, and the redevelopment of the Central Business District and recreational facilities.

4.2.3 POLICY IMPLEMENTATION FUNCTIONS

(i) Instruments

(a) Public Awareness and Education

In spite of the provisions of the Town and Country Planning Act, Cap 475, there is a woeful lack of understanding of the planning and development process on the part of the general public, and even at both central and local government levels. The Provisions of the law, based on advertisements to solicit comments on, and objections to schemes already prepared, de nothing

to educate on and involve the public in the meaning and purpose of planning in order to win their sympathy support-

(b) Economic Incentive Mechanisms

The use of economic and fiscal incentives to attract investments has been the prerogative of the central government, whose economic Policies in the post-independence years, have centred on export trade and controlling the prices of consumer goods, to the detriment of human settlement development. The Investment Centre, established in 1992 as a one-stop centre for advising investors and the government on opportunities and incentives, uses tax-free holidays and liberal terms for the repatriation of profits as incentives to attract investments into specific sectors of the economy. This zeal to satisfy investors at times creates conflicts with the land-use management of the City, and many of these investments hardly make any contributions to the improvement of the city's physical infrastructure. At the City level itself, the demise of the Land Fund has left the Council unable to pre-service land as an incentive to investors. This situation also contributes further to the erosion of the property-tax base of the LCC as property development is slow, erratic and For the small-scale investors, however, the small scale-scale Industries Service Organisation (SIDO) and the, Village Industries Service (VIS) offer incentives in the form of industrial/commercial premises, assistance in the preparation of loan applications and guarantees to loans from financial institutions.

(c) Regulatory Mechanisms

The Town and Country Planning Act (Cap 475) sets out procedures for the declaration of planning areas by the Minister of Local Government and Housing; the preparation of Planning schemes to cover all or part of such planning areas; and the control of development through the granting or refusal of town planning permits to developers. The Directorate of City Planning is responsible for administering the planning law at the city level; but, as already noted, the allocation of plots to potential developers is the responsibility of the Commissioner of Lands, also imposes a minimum building clause "as to -the minimum value of structure to be erected "on a plot". This is no substitute for "site-value rating" by which the LCC could with certainty expect to receive a property tax rate after a grace period within which the property is expected to have been developed, or else the developer could forfeit the land

Other legislation supporting the city management process include, apart from the 1991 Local Government Act under which the LCC is empowered to make bye laws on specific administrative, environmental management, or licensing matters, the following:

The Public Health Act (Cap 535) and its subsidiary regulations empower the LCC to control and deal with the construction and occupation of buildings; drainage and latrines;

control of habitation in factories, workshops and trade premises; crematoria and cremation, etc.

The Factories Act, 1967, Regulations made under this Act include the safety and health of occupants; cleanliness of walls and ceilings, etc.

The Local Administration (Trade and Effluent) Regulations,1985, provide for the sitting of point of discharge, control of rate and times of discharge etc., into specific drains and streams; these regulations also specify methods and frequency of sampling and analysis of effluent discharged; etc.

Trading, Liquor, and other Licensing Regulations, designed to assist the LCC to control trading practices, times of operations,. noise and nuisance abatement, and pollution control; including the power to levy charges and fines on culprits.

Strategic Capital Investment **(SCI)**.The financially strapped LCC, has not been able to embark on any significant capital investments since the early 1970's, when it undertook the squatter upgrading project with a World Bank Loan that project was premised on the fact

that the squatter (or informal) settlement were here to stay and that it was the Councils responsibility to bring them into the mainstream of the city's socioeconomic services. This called for the *compulsory acquisition of land, as* provided for under Part 7 of Cap 475 (T & C.P.A) to house the overspill population. Again the *Location of infra structural services* in the area of the Parliament Mot el helped to open up for development the areas around the mass Media Complex and the UNDP Headquarters. It is expected that as the economy *improves,* the LCC will make use of other (SCI) mechanisms, s h as the *issuing of bonds* to finance development; the granting of *'planning gain '* as an incentive to a developer in exchange for some development activity deemed beneficial to the community; and *urban renewal* schemes to revitalise declining neighbourhoods; and the preservation, of historic districts and sites to induce tourism and other activities.

(ii) Practices

(a) Programming/Budgeting

The LCC financial Year runs from 1 st January to 3 1 st December, while the National Financial year is from I st April to 3 1 st March. The Council has to submit its budget proposals by the end of September to the Ministry of Local Government and Housing for approval and incorporation into the ministry's budget proposals for the following year. The Council's own budget preparation is, essentially, a departmental affair with little cross-sectoral or inter-departmental consultations; the Directorate of Finance collates and co-ordinates all departmental estimates, and submits them to the Finance Committee for approval and adoption as the LCC's Budget proposals, before submission to the Ministry.

The time-lag between submission approval has widened so much that, as has already been noted above, the 1995-96 proposals have still been not approved by the ministry. This situation, coupled with the withdrawal of government grants to the LCC and other local authorities, has frustrated the capital expenditure proposals, particularly as ministerial approval is required for borrowing to finance capital projects. Even in times when approval was forthcoming, the councils approved budget was a truncated form of the original proposals, only able to sustain existing operational levels with some allowance for inflation. Meanwhile, the Councils own revenue generation is severely hampered by the spiralling inflation of the 1980's; the government's refusal to allow the LCC to increase user charges; and poor debt-collection, as illustrated by the following table:

Table 4.2.3 (ii); Water Debtors, Owed to Council as at 30th November 1993.

Council	owned by GRZ/ Parastatal Debtors (in kwatchas)	owed by private Debtors (in Kwatchas)
Livingstone	19,967,334	26,931,189
Lusaka	584,059,915	1,581,919,815
Ndola	592,395,265	253,130,823

Source: Financing Local Government Vol. 1 MLGH/ODA, Lusaka. September 1994

(b) Management of Public Lands

Apart from the plots of land in an approved planning scheme and which are subject to allocation by the Commissioner of Lands, (or the LCC where the Council itself holds a headlease) to prospective developers, there are pieces of land, such as public open spaces (P.O.S), road reserves, play-parks. and spaces around some public buildings, which are, in principle, managed

and maintained by the LCC. In practice, however, management and maintenance have been lacking due to lack of resources on the part of the Council. The result has been that most of these "public lands" have become the sites for urban farms (or "kitchen gardens'), and dumping of refuse, unauthorised quarries, and hideouts for criminals. The LCC has now invited private participation in the running of these parks.

(c) Comprehensive Planning and Structural Adjustment

The reasons for the decline of the Zambian economy in the past two decades were both external and internal. The persistently low metal prices of the 1970's 1980s, the over-dependence on copper which in 1989, accounted for 87% of total exports and contributed 10% to the GDP; and the increasing trade imbalances against Zambia; were some of the external factors. Internally, the low priority given to agriculture, the promotion of policies which sustained consumption in anticipation of an upturn in copper prices; high inflation; chronic shortage of foreign exchange leading to black marketing, and a command economy, with its reliance on the parastatal sector, failed to stimulate production and even achieve an equitable distribution of wealth.

Realising the crippling effects of these problems, the government launched the Economic Recovery Plan, 1992-94 which called for, among other things, promoting diversification; scaling down government intervention; stabilisation of financial and fiscal conditions; encouragement of foreign investments and generally, promotion of the private sector. These programmes have received support from the international funding and financial community, and have resulted in the stabilisation of inflation, and a positive improvement in public transport, health services, and educational infrastructure. However, the same programs have resulted in reductions in public sector employment, with a consequent growth in the informal trading sector. A new culture of self-reliance has of course been developed, and the LCC, for example, is now seeing itself as a partner with stakeholders in the city development effort.

C7
State of the Urban Environment Report

The Environmental Profile is intended to have a fairly wide distribution, particularly among the key stakeholders and project partners. However, it is also important to find ways of spreading the message even more widely within the city. This can best be done by preparing a *separate* document - one specifically designed for ease of reading and simplicity.

This simplified summary document would be, in effect, a Report on the State of the Urban Environment. It would present the main points of the EP - its main conclusions and issues - in a well-illustrated and professionally laid out 'popular' version. This short brochure should be attractive and clear, both in content and, especially, in physical production (using colours, photos, graphics, etc.). It should be distributed city-wide.

The State of the Urban Environment brochure could be an annual report. It would summarise the progress made by each of the Working Groups. This would serve several purposes:

- it would keep the city's stakeholders informed and involved
- it would present the project results and achievements
- it would automatically update the EP
- it would be ideal for information and communication purposes, and could also be used to involve possible donors and investors

The first brochure would be a popular summary of the EP. Successive brochures should follow the basic structure of the EP, focusing attention on environment-development interactions by looking at activity sectors, environmental resources, environmental hazards, and management systems.

The brochure is not easy to write: on one hand it must be short, to-the-point and easy to read - a genuinely 'popular' version that is accessible to all the literate population. On the other hand, it should include the important information, some of which is technical and not easy to understand. Striking the right balance between simplicity and proper content will not be easy. (It may be worth consulting a professional editor or writer for assistance.)

It is essential that the brochure be written in whatever language is most widely read among the population of the city. For example, in countries like India or the Philippines or Nigeria, it can be safely assumed that the more educated members of society can generally read English. But for the population as a whole - which is the target audience of the brochure - English is little used and often imperfectly understood. The brochure should then be in Tamil or Tagalaog or whatever is appropriate. The purpose is to maximise distribution of the ideas of the Environmental Profile, and therefore it should be in the most widely accessible language. The brochure might originally be written in English, but it must then be translated into the appropriate local language.

C8
The Global Sustainable Cities Programme: Lessons of Experience

This Annexe gives an overview of the Sustainable Citiees Programme: its history, approach, process, etc.

Background

Perhaps the greatest challenge for urban development policy-makers and practitioners is to ensure that our growing cities and towns remain economically, socially and environmentally sustainable. In most countries, rapid urban expansion has been accompanied by growing environmental problems, which not only seriously damage health and well-being (especially of the poor) but also damage the urban economy and threaten the sustainability of development gains.

Although urban expansion is commonly seen as the 'cause' of environmental (and other) problems, experience and research alike show that the real causes are deeper. According to research from the Urban Management Programme, for example, the underlying causes of environmental degradation can be traced to "...inappropriate economic policies, inadequate investment in pollution control, deficient regulatory and institutional frameworks, weak management capacities, inadequate cost recovery, and insufficient political will and public awareness."

In other words, it is **not** urban growth itself that 'causes' environmental problems; instead, it is a series of policy and management weaknesses which mean that cities are generally not able to cope adequately with the physical and environmental consequences of growth and change.

In response to this situation, the United Nations Centre for Human Settlements (UNCHS) in 1991 launched the global **Sustainable Cities Programme** (SCP), with the aim of helping city governments and their partners in the public, private and community sectors to develop the improved environmental planning and management capacities which they require in order to deal more effectively with the process of urban growth.

The Sustainable Cities Programme initiative was given a tremendous boost by the 'Earth Summit' - the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992. The 'Earth Summit' focused the world's attention on the crucial importance of environment for social and economic development and resulted in wide-spread adoption of the famous *Agenda 21*. Agenda 21 articulated a range of desirable policies and concepts, including an emphasis on cross-sectoral coordination, decentralisation of decision-making, and broad-based participatory approaches to development management. The potential of the SCP as a vehicle for implementing Agenda 21 at the city level was recognised - and supported - immediately, with this role being further strengthened at the 'City Summit' in Istanbul in 1996 (the Second United Nations Conference on Human Settlements - Habitat 2) and through the *Habitat Agenda* which was then adopted.

In 1995, the governing bodies of UNCHS and of UNEP (United Nations Environment Programme) decided to make the Sustainable Cities Programme a **joint facility**, thereby pooling the mandates, resources, and capabilities of the two agencies and providing an even broader and more solid foundation for the work of the SCP. In 1996 and 1997, the SCP became the spearhead of the two agencies in operationalising a new development cooperation paradigm which is centred on partnership, mutual learning and mutual assistance, sharing of experience, with primary reliance on local resources supported by international programmes in the role of facilitator.

The Sustainable Cities Programme Today

Since its inception, the SCP has grown from a very modest $100,000 per year initiative to a multi-million global programme which mobilises support from a wide variety of sources including UNCHS, UNEP, UNDP, WHO, ILO, World Bank, the Netherlands, Denmark, Canada, France, Italy, the United Kingdom, and others.

The primary focus of the Sustainable Cities Programme, however, remains firmly at the **city level**; in its initial five years more than 95% of the resources mobilised for the SCP have been applied to city-level activities. The first SCP city demonstration project began in January 1992 in Dar es Salaam (Tanzania), and others soon followed: Accra (Ghana), Blantyre and Lilongwe (Malawi), Cagayan de Oro, Tagbilaran, and Lipa (Philippines), Concepcion (Chile), Dakar (Senegal), La Habana (Cuba), Ibadan (Nigeria), Ismailia (Egypt), Katowice (Poland), Lusaka (Zambia), Madras (India), Maputo & Nampula (Mozambique), Moscow & St Petersburg (Russia), Shenyang & Wuhan (China), and Tunis (Tunisia). In addition, numerous other cities are in various stages of preparing for and developing SCP demonstration projects, for example, Amman (Jordan), Asuncion (Paraguay), Belo Horizonte (Brazil), Gaza (Palestine), Harare (Zimbabwe), and Kampala (Uganda).

In Tanzania, the experience of the Dar es Salaam project is being extended to a variety of secondary cities (Dodoma, Moshi, Zanzibar, etc.) each of which is now initiating its own SCP project. In Egypt, Nigeria and in Chile, similar initiatives to replicate the SCP process in other cities are being developed. In the Philippines and Sri Lanka, the programme focuses initially upon SCP projects in three secondary cities and municipalities respectively, but a regionally-based replication process is built in so the SCP process can be extended to other cities/municipalities.

The Sustainable Cities Programme is therefore global in scope but still firmly local in focus. Moreover, this large 'family' of SCP project cities gives the SCP a tremendous foundation of "real-world" experiences through which the SCP approach and methodology is continuously tested, adapted, revised, and enhanced. Indeed, this is perhaps the greatest strength of the SCP approach: it is a robust general methodology which has been adapted to different local circumstances and successfully applied in many different cities, each of which not only benefits from and learns from the SCP approach but also contributes directly to the further evolution and strengthening of the SCP concepts.

To supplement and support this energetic and growing base of participant cities, the Sustainable Cities Programme has more recently been developing

its activities at the **regional** and global levels. At the regional level, efforts are underway to develop networks and mechanisms for sharing experiences, pooling resources and expertise, and developing regional information bases. This has progressed furthest in the Africa region, but initiatives are also underway for similar activities in North Africa and the Middle East. At the **global** level there is even greater recent progress; the SCP has mobilised substantial resources to increase the capacity of the SCP core team and its partners to:

- more effectively back-stop city projects and related activities at the city, national, and regional levels;
- develop and support networks and activities for sharing experiences and for mutual learning;
- capture lessons of experience, document good practices, and develop other means of systematically learning from the SCP family of cities; and
- develop a variety of "tools" and guidelines to support the broader replication of the SCP process.

Because it provides a locally-adapted general framework for new approaches to urban environmental management, the SCP has proved in practice to be an ideal attraction for and vehicle for **inter-agency cooperation**. The flexibility of the SCP approach makes it possible to accommodate a wide variety of support interventions, while the operational structure of an SCP city project provides a good basis for proper coordination of efforts at the local level. As a result, the SCP is already collaborating with more than 35 different international support programmes, as well as with national and international NGOs and associations of local government, in the implementation of the various city demonstration projects. In addition to the extremely valuable extra support it gives - directly and indirectly - to SCP project implementation, this broad base of inter-agency cooperation provides an important stimulus to the mobilisation of follow-up resources, especially funds for priority capital investments.

Some Key Characteristics of the Sustainable Cities Programme

As emphasised earlier, the SCP does *not* view environmental deterioration as a necessary or inevitable consequence of rapid urban growth; equally, the SCP does *not* consider financial resource constraints to be the primary cause of environmental problems. Instead, the SCP considers environmental deterioration to be primarily caused by:

- inappropriate urban development policies and policy implementation;
- poorly planned and managed urban growth which does not adequately consider the constraints (and opportunities) of the natural environment;
- inadequate and inappropriate urban infrastructure, both in terms of investment and especially operations, maintenance and management; and
- lack of coordination and cooperation among key institutions and groups.

Accordingly, the SCP focuses very explicitly on ***urban environmental planning and management (EPM)***; it works directly with local governments and their partners to develop and nurture local capacities, system-wide, for more effective and responsive local governance, highlighting:

- more relevant and more appropriately utilised environmental information and technical expertise;

- better identification and understanding of priority environmental issues, leading to more soundly-based decision-making about urban development and environment;
- improved processes and mechanisms for formulating coordinated environmental strategies and for implementing them effectively;
- enhanced and institutionalised managerial capacities in the public, private and community sector partners; and
- more effective mobilisation and use of available technical and financial resources.

Similarly, the SCP is essentially concerned with the ***process*** of environmental planning and management - certainly *not* concerned with the production of plans and technical report and studies. Most cities are already well-endowed with master plans of various types, as well as numerous technical studies, often produced at great expense; but in most cities, these plans have had little effect on the reality of urban growth and development! Even in those few cases where such plans and reports have been (usually only partially) implemented, very often the consequences are quite different from what was originally foreseen or intended.

A key characteristic of the SCP is its emphasis on understanding the ***two-way relationship between environment and development***:

- urban development affects the environment (air pollution, exhaustion of ground water supplies, draining of wetlands, etc); but
- the environment in turn affects urban development (water supply shortages, flooding, land subsidence, etc).

The SCP also emphasises understanding the *long-term implications* of the environment-development relationships. Often, severe and lasting (perhaps even permanent) damage is done to the environment simply because the long-term consequences are not properly appreciated and are not properly incorporated into the planning and decision-making processes. This is particularly true when the short-term actions are taken in isolation by one activity sector (e.g. filling in marshes and wetlands for urban development) while the longer-term consequences are felt later by other activity sectors (flooding from water displaced to other areas, loss of wildlife, increased land erosion, etc.).

Almost everywhere in the world, urban government systems are organised in traditional hierarchical bureaucracies with vertical lines of communication and responsibility and fragmented into highly-compartmentalised departments and sections, themselves often separated by rigid sectoral and professional/ technical boundaries. These local government structures basically evolved for simple forms of administration and service delivery and are generally narrow and short-term in focus. This traditional type of government structure, however, is very poorly suited to the complex demands of urban development and environmental management in the modern world. Environmental issues generally cut across departmental and sector and professional boundaries, having complicated sets of short-term and especially long-term interactions in a wide variety of realms; these interactions, moreover, are often very inadequately understood. Hence, the development and strengthening of ***cross-sectoral and inter-institutional connectivity*** is a central feature of every SCP city project.

The Sustainable Cities Programme also has a central commitment to the ***widest possible range of participation*** in urban environmental planning and management. This commitment is not based on theory or ideology - but on the practical reality that effective and sustainable environmental management requires the active and meaningful involvement of all those different groups and organisations and interests whose cooperation is necessary for successful action and implementation. Environmental planning and management is *not* a task which can be accomplished by 'government' alone. On the contrary, ultimate success depends on proper involvement of:

- **the Public Sector** - focused particularly on the local or metropolitan level and including all the relevant agencies, departments, authorities, etc. - and involving politicians as well as officials;
- **the Private Sector** - the economic sectors (trade, business, industry), both large-scale modern participants and those in the "informal" sector; and
- **the Community Sector** - Non-Government Organisations, both local and national, Community Based Organisations, Private Voluntary Organisations, special environmental interest groups, etc.

The SCP approach accepts the reality that there are many different and often conflicting interests with respect to any particular environmental or development question. Indeed, the very existence, and the nature and severity, of environmental problems depends upon whose point of view - whose interest - is being adopted. One person's environmental opportunity (filling in a marsh for building land) is another person's environmental danger (displaced flooding). It is therefore quite unrealistic to search for "neutral" or purely "technical" solutions. It is much more important to understand the full range of costs and benefits, of advantages and disadvantages, and especially the distribution of likely gains and losses attached to alternative courses of action (or inaction).

For this reason, concerning any particular environmental issue the SCP approach insists that the ***full range of "stakeholders"*** (interested parties or groups) should be identified and incorporated properly into the environmental planning and management process. The range of stakeholders - from the public, private or community sectors - should include:

- those who possess relevant information, knowledge, or expertise concerning the environmental issue;
- those who control or influence relevant instruments for intervention and implementation; and
- those whose interests are directly affected by, or whose activities affect, the particular environmental issue.

Finally, it is quite clear, from long and varied experience, that the SCP approach requires sustained and long-term commitment to change. There are no 'easy answers' to urban environmental problems - deep-seated and structural difficulties are not resolved by extra dollops of capital investment or by discovery of a shiny new technology. The basic task is one of changing the ways in which people and organisations go about the business of urban development management. This can only be a slow, difficult, and challenging task.

The SCP approach is therefore flexible, pragmatic, and responsive. It is based on the premise that the environment is a critical ingredient for the

success of failure of urban development, and that participatory management is the most effective response to environmental concerns. The SCP introduces a management approach that seeks to involve and reconcile, rather than exclude and restrict, the various stakeholders in urban development. Most important, the SCP is a general approach which is always adapted in application to the particular local circumstances.

The SCP Process in Summary

The SCP process has evolved through application and development in a wide variety of cities, and it is still changing in response to new knowledge, new experience. However, the basic approach of the Sustainable Cities Programme in a city-level demonstration project retains the same general form, which can be briefly summarised. Each SCP project typically passes through three broad, and typically over-lapping, phases:

- a six to nine month *Start-Up Phase*;
- a *Strategy and Action Planning Phase* of 15 to 24 months; and
- an open-ended *Follow-up and Consolidation Phase*.

During the *Start-up Phase* the foundations for the whole SCP project are laid, and therefore considerable effort goes into ensuring this is done carefully and successfully. The key activities during this phase are:

- establishing and organising the project team;
- identifying and clarifying environmental issues;
- assembling and analysing relevant information;
- identifying and mobilising key stakeholders;
- agreeing priority environmental issues to be taken up; and
- confirming broad-based support for the approach and the project.

Identifying and clarifying urban environmental issues, for example, is much more complex and difficult than it seems. To assist in this process, an SCP project will normally prepare an Environmental Profile, which is a special way of organising information to highlight environment-development interactions as well as illustrate critical management aspects. To assist in organising the necessary information (both for phase one and, especially, for phase two) it is common to establish a simplified GIS/EMIS system. Another critical task is the identification and the mobilisation and involvement of relevant stakeholders. Extra effort is required to ensure that stakeholders who have not traditionally been involved can become active participants.

Phase One is normally concluded with a large-scale City Consultation, a three to five day workshop with 150 to 300+ people attending. At this Consultation, carefully structure review and discussion of the main environmental issues will lead to agreement on which are the priority issues to be taken up by the SCP project. In addition, the Consultation will confirm political support and consolidate stakeholder participation, as well as agree the institutional arrangements for the remainder of project activities, including the establishment of broad-based cross-sectoral Working Groups.

The *Second Phase* encompasses the main work period of the project, and in general it will involve the following activities:

- further clarification and assessment of environmental issues and sub-issues;
- negotiation of agreed issue-specific environmental management strategies;

- aggregating across issue for an over-all environmental strategy;
- developing agreed issue-specific environmental action plans;
- working out collaboration with other projects and programmes;
- agreeing and establishing monitoring systems;
- initiating capacity-building and institutional development; and
- formulating capital investment and technical support project proposals.

At the City Consultation, Working Groups will have been set up for the agreed priority issues; there may be several topic-specific Working Groups in relation to each main issue. Each of these Working Groups will comprise members from the important stakeholders, for example from all the different municipal departments and agencies relevant for the topic and from private sector and NGO groups as well. The key point is that the Working Groups are issue-specific, rather than general, so as to encourage cross-sectoral cooperation on a more pragmatic 'problem-solving' basis. These various Working Groups, supported by the SCP project team and aided by specialist resources made available through the project, carry out the main work of the SCP project.

These Working Groups will then undertake a variety of tasks. Reviewing the information available on the environmental issue and especially on the studies, strategies, and plans which have previously been prepared or considered, the Working Group will further clarify the issue and assess the various implications of alternative interventions. Out of this process will come a negotiated consensus on the basic environmental management strategies to be adopted for that particular issue. This will almost certainly differ from earlier strategies, because under the SCP this will have been done through a broad-based cross-sectoral forum through which differing interests and viewpoints can be discussed and reconciled.

Probably working through a special Coordinating Working Group, the SCP project will also work to aggregate the several issue-specific strategies into an over-all environmental management strategy, through which the crucial inter-linkages among environmental issues can be taken into account. This will also provide a basis for a framework environmental management plan, as well as a foundation for developing a Local Agenda 21.

The Working Groups will also work on the translation of the agreed strategies into environmental action plans, embodying agreed time-schedules, resource commitments, coordination mechanisms, respective responsibilities, etc. Utilising the broad base of representation in the Working Groups, these action plans will develop packages of mutually supporting interventions using a full range of implementation instruments, together with agreed institutional plans to support implementation. At this point, the great advantage of broad-based Working Groups becomes more apparent, because it is then possible to mobilise support from private sector groups, NGOs, CBOs, and public sector departments not traditionally involved in decisions about this particular environmental issue.

Implementation of agreed action plans, including initiation of supporting implementation actions (such as policy and regulatory reforms, economic instruments, etc), should also begin during Phase Two. Typically this will occur in a phased manner, with some issues or sub-issues reaching this stage before others, depending upon local circumstances. Also, as Phase

Two proceeds, it is likely that additional priority issues will be taken up: as the SCP project matures and gains experience, the capacity to handle additional issues will be built up, and in any case, over the life of the project priorities are likely to change.

To support the Working Groups - and the stakeholder organisations from which they draw their representation - a variety of training, awareness-raising and capacity-building activities will be undertaken.

Derived from the action plans and strategies there will be a number of capital investment and technical cooperation project proposals, collected into mutually-supporting 'packages' where possible; these will be identified, agreed, and developed upon to 'bankable' status and negotiations will be initiated with potential funding sources.

The *Final Phase* of the SCP project (which will overlap with some activities of the Second Phase) will include a number of activities:

- initiation of priority capital investment and technical support projects;
- consolidation and extension of capacity-building initiatives;
- institutionalisation of SCP procedures and approaches;
- extension of monitoring systems and initiation of evaluation; and
- initiation of steps for replicating the SCP process in other cities.

The capital investment and technical support projects which were formulated should be taken through to funding and implementation on the ground (although with the typical lead-times for funding agencies this typically only begins well into the Final Phase). The coordination and monitoring systems set up through the SCP project will be valuable here, to help promote not only effective investment implementation but also to provide back-up support for the essential operations, maintenance and management aspects.

Through the activities of the different Working Groups, and supported through the different capacity-building undertakings, the experience of doing the SCP project will allow these new capabilities to be firmly rooted in the various local institutions. In this way, the SCP capabilities will be institutionalised in a lasting way.

Finally, through the capturing of lessons of experience of the SCP city project, supported by its monitoring mechanisms, and through the personal and institutional capabilities established through the project activities, the resources will be available for replication of the SCP process and its extension to other cities.