



PREFACE

AN ECOSYSTEM APPROACH TO THE REGENERATION OF CITIES

The city should be regarded as a natural ecosystem, requiring an integrated approach for addressing its problems.

Half the world's peoples will live in urban areas by the end of this decade. Whether we achieve a greater degree of environmental sustainability over that time will therefore be determined largely by our cities. Surely, sustainability is not possible in the long term unless we can soon find ways to regenerate our urban ecosystems, keep them in good health, and adopt more sustainable urban lifestyles.

*But the environmental challenges facing cities receive relatively little attention — as any review of the literature on sustainable development quickly makes clear. Even the United Nations World Commission on Environment and Development (the Brundtland Commission) devoted little to the analysis of what it called the urban challenges. As Michael Hough said in his book *City Form and Natural Process* (1989), "In a world*

increasingly concerned with the problems of a deteriorating environment, be they energy, pollution, vanishing plants, animals or productive landscapes, there is a marked propensity to bypass the environment most people live in — the city itself."

The City as Pestilence

Why do most environmental commentators engage in so little analysis of our urban ecosystems? Perhaps one reason is that many environmentalists continue to see cities as unnatural — or worse. Recently, for example, Canadian geneticist David Suzuki, a widely read analyst of social and environmental issues, offered his perspective on cities around the world:

We can't eradicate cities. Nor would we want to. But we must recognize that cities disconnect us from nature and each other. They exist by draining resources from the planet while spreading toxic materials and debris. And if we regard all living things on earth as an immense supra-organism (which some have called Gaia), then cities must be seen as the Gaian equivalent of cancer (1991).

Dr. Suzuki's view of cities, however harsh, plays to a familiar bias in North American

literature. Cities, in the accepted view, are not good things. ("Pestilential to our future," said Thomas Jefferson.) Bad things happen there. The countryside is a good thing. Good things happen there. "Nature" is at home in the countryside but not in the city, and God is clearly more knowable in the wide-open spaces than on city streets.

City bashing, therefore, is an easy occupation, but it makes the regeneration and renaissance of cities much more difficult for those who, like Lewis Mumford, see the city as a place where "the separate beams of life" are brought together and "the issues of civilization are brought into focus" — a place where ancient connections, origins, and identities merge with overwhelming events that suggest new opportunities, new dreams, and new questions.

The City as Beacon

It has not been all one-sided, though clearly the bashers have had their way. In a valiant brigade, city lovers such as Jane Jacobs, William H. Whyte, Ian McHarg, Tony Hiss, and others have struggled to frame a more positive view of the city, and have offered both philosophical perspectives and practical steps for a more hopeful future.

They are supported, of course, by the millions upon millions of ordinary people who over the centuries have chosen to leave the countryside in order to live in the city. Why do they come? Why have cities grown and grown? Why do people, if they have the choice, decide to live in the "pestilence" and "cancer" of the city?

Cities are desirable and important because they continue to be beacons of hope and freedom to each new generation. Travel on any continent and you will see young people taking the road to town, drawn by the magnetism of cities. Cities are places where fame, fortune, and the future seem ripe for the picking. They are places where you can try to be what you want to be — and where, if you're lucky, you will find a sense of

*community that will serve your needs, shape your day-to-day experiences, give focus to your freedom and meaning to your hopes. For these reasons, as the Alberta Environment Council (1988) put it in its publication **Environment by Design**, cities continue to be "the habitat of choice for most people."*

The City as Natural Phenomenon

*But like us, a city is not separate from nature. Within cities we have vegetation, forests, fields, streams, lakes, rivers, terrain, soils, and wildlife. Hydrology, topography, and climate set the fundamental structure for human habitation and the building of the city itself. As Kevin Lynch (1981) wrote in **A Theory of Good City Form**, "People and their cities are as much natural phenomena as trees, streams, nests, and deer paths. It is crucial that we come to see ourselves as an integral part of the total living community".*

Based on this understanding, we must begin the regeneration of our cities and waterfronts over the next decade. Only by understanding the city as a part of nature can we deal with the wounds inflicted on it, mend its ways, and design its form so that it functions sustainably to satisfy needs without diminishing opportunities for future generations.

The Environmental Revolution

There is, of course, no other choice. The Environmental Revolution is already here — as almost everybody knows. It developed out of the perspectives of the conservation movement at the turn of the century, and was quickened by the actions of anti-pollution activists in the last 25 years. As a result, the environmental imperative today is hitting the city with seismic force.

The fact is that, in pursuit of its needs and pleasures, our throwaway society has poisoned the air, polluted the rivers, and contaminated the earth, without worrying or caring to learn about the long-term damage

caused to the environment or about the way we are foreclosing opportunities for future generations. Unswimmable beaches, undrinkable water, unfishable rivers that have become sewers — these are only some of the visible, touchable signposts of environmental carelessness and degradation.

People will no longer put up with it. Environmental consciousness has already begun to reorganize government policies and priorities, recast corporate strategies, and redefine community and individual responsibility and behaviour. And it is raising fundamental questions — spiritual questions — about the relationship of humankind to nature and to God. It has become a force strong enough to change the face, form, and function of cities around the world.

An Integrated Approach to Cities

It is for these reasons, among others, that the idea of using an ecosystem approach to the regeneration of cities has gained increasing acceptance. An ecosystem is composed of air, water, land, and living organisms, including humans, as well as the interactions among them. The concept has been applied to many types of interacting systems, among them lakes, watersheds, the biosphere, and cities themselves.

Traditionally, human activities have been managed on a piecemeal basis, treating the economy separately from social issues or the environment. But the ecosystem concept holds that these are interrelated, that decisions made in one area affect all others. Dealing effectively with the environmental problems in any city requires a holistic or ecosystem approach to managing human activities.

There are certain key characteristics of an ecosystem approach that help illustrate what is required. An ecosystem approach:

- includes the whole system, not just parts of it;

- focuses on the interrelationships among the elements;
- understands that humans are part of nature, not separate from it;
- recognizes the dynamic nature of the ecosystem, presenting a moving picture rather than a still photograph;
- incorporates the concepts of carrying capacity, resilience, and sustainability — suggesting that there are limits to human activity;
- uses a broad definition of environments — natural, physical, economic, social and cultural;
- encompasses both urban and rural activities;
- is based on natural geographic units such as watersheds, rather than on political boundaries;
- embraces all levels of activity — local, regional, national, and international;
- emphasizes the importance of species other than humans and of generations other than the present; and
- is based on an ethic in which progress is measured by the quality, well-being, integrity, and dignity it accords natural, social, and economic systems.

Because all environmental problems (and, in fact, all social and economic problems) cut across disciplines and jurisdictions, the multidisciplinary and multijurisdictional qualities inherent in ecosystem planning make this approach particularly necessary and appropriate.

Overcoming Jurisdictional Fragmentation

Unfortunately, most of society is not organized in a way that facilitates this comprehensive approach. In Canada, for example, four levels of government have jurisdiction in the Toronto city region, and more than 100 agencies exercise responsibility

with little effective co-ordination among them. Indeed, in the past, the parochial pressures of bureaucracies and representative governments have almost compelled them to be unresponsive to cross-jurisdictional issues. When everyone is in charge, no one is in charge.

The result is bureaucratic and political paralysis — a situation in which almost any agency can stop projects, and no one can do anything. Because lines of accountability are completely distorted or hidden by this jurisdictional fragmentation, the citizen is left without any means of recourse. The implications for our democracy may be more crucial than we know. The jurisdictional gridlock throughout this region is the single biggest obstacle to its environmental (and economic) regeneration. And this is not a problem unique to the Toronto city region.

The ecosystem approach, then, requires new institutional arrangements. As the Brundtland Commission warned in its 1987 report, **Our Common Future**:

Most of the institutions facing those challenges tend to be independent, fragmented, working to relatively narrow mandates with closed decision processes. Those responsible for managing natural resources and protecting the environment are institutionally separated from those responsible for managing the economy. The real world of interlocked economic and ecological systems will not change; the policies and institutions concerned must.

Common Features to Diverse Solutions

Each city region in the world will have to develop its own institutional adaptations in order to implement an ecosystem approach to planning. Each adaptation will reflect the history, culture, traditions, habits, and customs unique to that city. But it is also possible to see that cities will discover some common features in their new approach:

- the recognition of the primacy of natural boundaries and processes;
- the integration of land use with environmental planning in public process and law;
- the integration of urban and rural planning to link the city with its region;
- the creation of concurrent, rather than consecutive, planning processes;
- the integration of capital budgets of all government departments and agencies to ensure coherence, economies, and financial strength; and
- the recognition of the increasing importance of designing places and spaces that allow people to feel a part of nature while they take advantage of the immemorial human pleasures that only cities can offer.

These kinds of institutional adaptations will help cities develop their potential fully. **Environment by Design** could not express it better than by quoting Claude Lévi-Strauss:

Cities have often been likened to symphonies and poems, and the comparison seems to me a perfectly natural one. . . . By its form, as by the manner of its birth, the city has elements at once of biological procreation, organic evolution and aesthetic creation. It is both a natural object and a thing to be cultivated; something lived and something dreamed. It is *the human invention par excellence*.

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