Université de Montréal

COLLABORATIVE STRATEGIES FOR MANAGING VALUED NATURAL ENVIRONMENTS WITHIN THE URBAN FABRIC

Par

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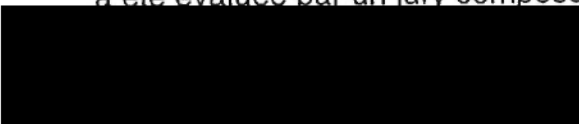
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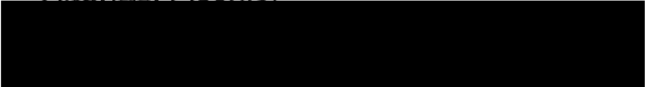Collaborative Strategies for Managing Valued Natural Environments
Within the Urban Fabric

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ABSTRACT

Sustainable urban development is an emerging concept, one that balances environmental, economic, and social elements with development patterns. Social integrity and equity are preconditions for its achievement. This research seeks a management model to apply the socio-political principles of sustainable urban development and provides a management tool to assess the effectiveness of the model's efforts. The thesis addresses a complex research area facing environmental planners: valued natural environments within the urban fabric.

This research proposes collaborative management to avoid the limitations of both centralization and privatization models of management. Whereas centralization and privatization are reasonable approaches under certain circumstances, the complexities and uncertainties of valued natural environments within urban settings pose a unique challenge to urban management which are addressed by collaborative strategies.

The key elements that define collaborative management strategies include involving all stakeholders in the decision-making process and sharing management responsibilities among them. Three interrelated dimensions will prove to be crucial to conceptualize collaborative management: strategies to initiate the collaborative model, to operate the collaborative process, and to implement the institutional arrangements in support of both. The major question that forms the basis of this thesis is derived from the debate about whether or not the model of collaborative management is an appropriate strategy to manage valued natural environments within the urban fabric. Then, if it is, under what conditions can collaborative management efforts be effective in terms of procedural equity.

The objectives of this research are to elaborate a conceptual framework for collaborative management strategies and to develop an evaluative framework to assess the effectiveness of collaborative efforts within the urban setting that are presented in this thesis. The emphasis is on the political dimension of sustainable urban development, namely the human-human and human-nature relationships.

To meet these objectives, the thesis employed a methodology that focused on an analysis of three case studies to illustrate the key elements of an effective collaborative effort. The cases are Mount Royal in Montreal, the Don River in Toronto, and Lake Timsah in Ismailia. They were selected based on specific criteria that reflected different valued natural environments within different urban contexts. Evidence for the selected cases came from two main sources: documentation and field interviews (structured and semi-structured). The research used a "pattern-matching" logic that analyzed the collected data and matched it with the proposed framework. This framework included multi analytical units with respect to an effective collaborative management effort.

The results of the research revealed that stakeholders' commitment to collaboration was necessary to reach an effective collaborative effort. Their acceptance and support for collaboration accommodated rather than compromised their different interests, and balanced their power within a shared decision-making process. An external agency cannot impose these conditions from above. An enabling role of governmental authorities proved to be essential in achieving effective collaborative process through the provision of a supportive legal framework, coordinated institutional arrangements, and adequate resource allocations. This collaborative process is a long-term endeavor that requires much patience and learning by trial-and-error before various stakeholders can begin to adapt and operate effectively and equitably.

In conclusion, this research presented collaborative management as an appropriate model to manage valued natural environments within the urban fabric. In light of the case studies, the advocated evaluative criteria have been shown to be relevant and valuable to assess collaborative efforts in terms of procedural equity. The criteria were presented in terms of stakeholders' commitment for collaboration, balance of power among the stakeholders within the collaborative process, and adaptive institutional arrangements.

The research acknowledges that cultural aspects pose significant challenges to the collaborative process and to the commitment of various stakeholders. It also recognizes the effect institutions have on the characteristics of decision-making and the need for adaptation in order to offer supportive arrangements for an effective collaborative effort. A key element to transform the institutions in place to be more responsive and adaptable to collaboration was the process of learning-by-doing. Local leadership is essential to encourage collaborative efforts and to enhance an institutional adaptation process.

Further research is necessary in the future to assess effectiveness in terms of achieving instrumental goals related to environmental quality. It is also important to research the obstacles that are likely to impede the progress of collaborative management strategies. Future theoretical work on collaborative management needs to consider further contextual factors (e.g., local culture and democracy) that influence its effectiveness. Leadership is another factor that needs more research. Finally, additional work will have to be done to identify gender specific criteria and indicators.

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RESUME

Afin de favoriser un développement urbain viable, on reconnaît la nécessité d'appliquer aux milieux urbains une approche de gestion intégrée de l'environnement caractérisée, entre autres, par l'équilibre entre les enjeux de la conservation et du développement. Cette thèse s'efforce de trouver un modèle de gestion qui permettrait de mettre en pratique les principes socio-politiques du développement urbain viable et fournir un outil de gestion capable d'évaluer l'efficacité des efforts participatifs.

Cette recherche part du constat selon lequel la complexité et l'incertitude caractérisant les environnements naturels exceptionnels en milieu urbain ont révélé les limites des modèles jusqu'ici exploités: la centralisation et la privatisation. L'alternative avancée par cette recherche est donc les stratégies de gestion participative.

Les éléments-clés qui définissent une stratégie de gestion participative sont: engagement de tous les partenaires du développement à la collaboration, et par là même au processus de prise de décision, et le partage équitable des responsabilités entre eux. Et trois dimensions complémentaires vont s'avérer essentielles pour conceptualiser la gestion participative: initier ce modèle, le mettre en pratique et adapter les structures institutionnelles au profit des deux.

Le questionnement principal de cette thèse est de vérifier si la gestion participative représenterait un modèle approprié pour gérer les environnements naturels exceptionnels en milieu urbain. Au cas où ce modèle est approprié, la recherche s'appuie sur l'évaluation des conditions sous lesquelles les efforts participatifs seraient efficaces en terme d'équité procédurale.

L'objectif principal de la recherche est d'élaborer et de mettre en place un cadre conceptuel dans lequel les stratégies de gestion participative pourront être implantées. Un autre objectif est de développer un cadre pour évaluer les efforts de gestion participative qui seront présentés dans cette thèse.

Afin de vérifier empiriquement ce cadre d'évaluation, trois études de cas sont analysées, choisies selon des critères très spécifiques qui traduisent différents environnements naturels exceptionnels à l'intérieur de différents milieux urbains. Les données ont été recueillies à l'aide d'une étude documentaire et d'entrevues (dirigées et semi-dirigées) menées auprès de divers acteurs de développement. L'analyse des études de cas procède d'une généralisation analytique selon la méthode du *pattern-matching*.

Les résultats de la recherche révèlent que l'engagement des acteurs du développement à participer à ce processus de gestion est nécessaire afin d'aboutir à un effort collaboratif efficace. Les recherches montrent que l'acceptation entière et le soutien des acteurs du développement à la collaboration accomplissent plus qu'ils ne compromettent leurs intérêts et permettent en outre un certain équilibre des pouvoirs à l'intérieur d'un processus de partage des prises de décisions, ces conditions ne pouvant être par ailleurs imposées par une agence extérieure. Dans ce cadre, le rôle des autorités gouvernementales s'avère indispensable pour favoriser la réussite d'une telle stratégie, d'abord à travers le soutien d'un cadre légal, mais aussi par la coordination entre les structures institutionnelles et l'allocation de ressources financières adéquates. Ce processus de collaboration requiert un effort à long terme, beaucoup de patience et un apprentissage progressif et lent de la part des acteurs du développement afin que ceux-ci puissent agir efficacement et équitablement.

La conclusion de la recherche révèle que la gestion participative est un modèle approprié pour gérer les environnements naturels exceptionnels en milieu urbain. L' analyse des trois études a vérifié la pertinence des critères proposés afin d'évaluer l'efficacité des efforts participatifs en terme d'équité procédurale. La conclusion soulève l'importance de l'aspect culturel qui pose plusieurs enjeux envers le processus de collaboration et l'engagement de différent acteurs à ce processus. Elle laisse aussi voir l'influence des structures institutionnelles et de la présence d'un leader local sur l'efficacité des efforts participatifs.

Il est par ailleurs difficile de dire si une stratégie de gestion participative peut s'appliquer à tous les contextes urbains. Cela exige plus de recherche dans l'avenir. Il est aussi important d'évaluer les efforts participatifs en terme de qualité environnemental. La relation entre la gestion participative et les notions de leadership et du genre est un autre domaine de recherche à découvrir.

La thèse comporte trois parties et se subdivise en onze chapitres.

La *première partie*, constituée des deux premiers chapitres, présente le sujet de la recherche. Le chapitre **I** présente le concept de développement urbain viable en soulignant ses origines, ses caractéristiques et les enjeux liés à sa mise en oeuvre. Le chapitre **II** explore le sens éthique de l'environnement naturel d'exception, qui va de pair avec l'équité sociale et l'intégrité écologique. Ce chapitre présente aussi les enjeux reliés à l'environnement urbain. Cette partie se termine en énonçant la problématique et les objectifs de la recherche.

La *deuxième partie*, constituée des chapitres **III** à **VI**, présente le cadre conceptuel de la recherche et énonce les pistes proposée. Le chapitre **III** identifie l'approche de gestion intégrée de l'environnement et souligne ses caractéristiques qui incluent la participation des acteurs du développement aux décisions relatives à l'environnement. Le chapitre **IV** étudie les prescriptions de Hardin pour gérer les ressources collectives. Les stratégies de gestion participative font montre d'une certaine efficacité dans la gestion des ressources collectives, notamment de la propriété commune. Les modèles de centralisation et de privatisation sont rejetés à cause de leur incapacité à concilier les principes du développement urbain viable.

Le chapitre **V** met en place un cadre conceptuel qui définit les dimensions de la gestion participative: l'initiative de ce modèle, sa mise en pratique et l'adaptation des structures institutionnelles. Afin d'évaluer l'efficacité des efforts participatifs, un outil de gestion est développé. Le chapitre **VI** présente la démarche méthodologique fondée sur une analyse de trois études de cas: le Mont-Royal à Montréal, la rivière Don à Toronto et le

lac Timsah à Ismailia. Après une présentation générale de la stratégie de recherche, ce chapitre expose la démarche de sélection des études de cas ainsi que la méthode de collecte et d'analyse des données.

La *troisième partie* applique le cadre proposé à trois cas différents déterminés par leur efficacité à parvenir à un développement urbain viable. Le chapitre **VII** analyse le cas du Mont-Royal à Montréal, le chapitre **VIII** analyse le cas de la rivière Don à Toronto, et le chapitre **IX** illustre le cas du lac Timsah à Ismailia en Egypte.

Le chapitre **X** résume les résultats à la lumière du cadre théorique de référence. Ce chapitre met en évidence les principaux résultats de la recherche, qui s'articulent autour de trois thèmes, soit l'engagement des acteurs locaux et des autorités gouvernementales à la collaboration, l'équilibre des pouvoirs dans le processus de collaboration et l'adaptation des institutions en place. Les résultats sont comparés à ceux d'autres recherches dans le domaine.

En conclusion, un bilan de la recherche est proposé au chapitre **XI** à partir des principaux résultats obtenus. Les conclusions dégagées permettent de formuler des recommandations concernant le domaine de l'aménagement et d'identifier des pistes de recherche à approfondir.

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LIST OF ABBREVIATIONS

ACC	Arab Contractors Company
BCM	Bureau de Consultation de Montréal
CAPMAS	Central Agency for Public Mobilisation and Statistics
CCI	Comité de Concertation Intérimaire
CCPBC	Comité Consultatif sur la Protection des Biens Culturels
CIDA	Canadian International Development Agency
CPDRO	Commission on Planning and Development reform in Ontario
CRPTPG	Center for Regional Planning of the Third Region Governorates
CSO	Combined Sewer Overflows
DANIDA	Danish International Development Agency
DWC	Don Watershed Council
DWTF	Don Watershed Task Force
EEAA	Egyptian Environmental Agency
GIM	Groupe Interuniversitaire de Montréal
GOE	Government of Egypt
IMP	Ismailia Master Plan
IUCN	International Union for the Conservation of Nature
LIFE	Local Initiative Fund for Urban Environment
MCM	Montreal's Citizens Movement
MTRCA	Metropolitan Toronto and Region Conservation Authority
NGO	Non-Governmental Organization
RAP	Remedial Action Plan
SCA	Suez Canal Authority
SCP	Sustainable Cities Program
SCU	Suez Canal University
SIP	Sustainable Ismailia Project
SLDC	Service des Loisirs et du Développement Communautaire
SHDU	Service de l'Habitation et du Développement Urbain
TFBBD	Task Force to Bring Back the Don
TSU	Technical Support Unit
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNCHS	United Nations Center for Human Settlements
WCED	World Commission on Environment and Development
WHO	World Health Organization
WRT	Waterfront Regeneration Trust

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INTRODUCTION

Sustainable urban development is an emerging concept, one that balances environmental, economic, and social elements with development patterns. Social integrity and equity are preconditions for its achievement. This research seeks a management model to apply the socio-political principles of sustainable urban development and provides a management tool to assess the effectiveness of the model's efforts. The thesis addresses a complex research area facing environmental planners: valued natural environments within the urban fabric.

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thesis. The emphasis is on the political dimension of sustainable urban development, namely the human-human and human-nature relationships.

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To this end, Part One defines the boundaries and object of the research: natural environments within urban settings. It explores, as well, the ethical meaning of a valued natural environment including such concerns as social equity and ecological integrity.

Part Two presents the conceptual framework derived from the discussion in the first part. Stress is placed on the application of these principles to contemporary environmental planning and management issues. Hardin's prescriptions to manage the commons are examined and both centralization and privatization models of management are rejected as they fail to meet the principles of sustainable urban development. Collaborative management strategies exhibit reasonable degrees of success in managing the commons as characterized by successful common property management regimes. Collaborative management is proposed with a complete framework to evaluate the effectiveness of collaborative efforts. Finally, Part Two defines the case studies to be evaluated in this thesis.

Part Three applies the proposed evaluative framework to three different cases in which the effectiveness of collaborative efforts is assessed. Case one is Mount Royal, Montreal, case two: the Don River, Toronto and case three: Lake Timsah, Ismailia, Egypt. An

interpretation of the results based on the synthesis of the analyses of these case studies precedes the final chapter that also contains recommendations for future research.

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PART

1

THE RESEARCH PROBLEM

This section defines the boundaries of the thesis research and consists of two introductory chapters. The first addresses sustainable urban development, and the second explores natural environments within urban settings. The second chapter also reviews the ethical aspects of a valued natural environment, and concludes by defining the research problem and its objectives.

Chapter I

SUSTAINABLE URBAN DEVELOPMENT

This chapter consists of four sections. The first reviews the origins of the sustainable urban development concept and explains its evolution. The second section defines the concept within urban settings and denotes its characteristics. Finally, the chapter places the challenge of achieving progress toward sustainable urban development firmly within the context of this research.

1.1. ORIGINS OF THE SUSTAINABLE DEVELOPMENT CONCEPT

The concept of sustainable development involves the long-term survival of the earth and its processes of dynamic evolution, including the wide range of species that currently live on it (O'Neil, 1997). For humans, it specifically requires achieving a position that allows us to live in harmony with the rest of the planet, so that we neither destroy ourselves nor the systems that support lifeforms (Pepper, 1996). An important threat to sustainable development is that the human species is attempting to live beyond the capacity of the earth, thus destroying the balance of natural systems[1]. Moving towards sustainable development requires economic and social systems that encourage long term environmental stewardship of natural resources, acknowledging the interdependency of social justice, economic well-being, and environmental stewardship.

This concern for both the environment and development can be traced throughout history. Indeed, the roots of the sustainable development concept lie in two closely related Western paradigms of conservation.

The first evolved from the perception that nature should be preserved; it was a reaction against the laissez-faire economic theory that considered living resources

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[1] Depletion of the ozone layer and creation of the greenhouse effect are examples of these negative actions.

as free goods, external to the development process, essentially infinite and inexhaustible. The second was derived from the moral injunction to act as a steward of the landscape (Jacobs et al, 1987:18).

Current concern for economic development and environmental stewardship was expressed more explicitly in the 1968 Man and Biosphere Conference held in Paris, and the 1972 United Nations Conference on the Human Environment held in Stockholm[2]. As a result, the concept of "eco-development" which is advocated by Sachs and Strong emerged, stressing the necessity to harmonize social and economic objectives of development with the ecological concern to manage both natural resources and their ecosystems (Selman, 1992). O'Riordan (1989: 93) defined the concept as a "mediating term which bridges the gap between developers and environmentalists".

In 1980, the World Conservation Strategy[3] further attempted to integrate environment and development (IUCN et al, 1980). It called for sustainable development based on the conservation of natural resources that would combine the following objectives: (i) maintenance of essential ecological processes and life-support systems; (ii) preservation of genetic diversity; and (iii) sustainable utilization of species and ecosystems (IUCN et al, 1980). Pezzoli (1997) stressed the importance of the political dimension in this strategy which advocates local autonomy and equity to meet the needs of local communities as a necessary means to achieve the strategy's objectives.

Popular discussion of sustainable development was prompted by the publication of "Our Common Future" in 1987, the Brundtland report (WCED, 1987). As the most widely quoted definition of the goal of sustainable development, the Brundtland report states that "it is a development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs" (WCED, 1987:43).

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[2] At this conference, concerns for the natural environments within the urban fabric were placed on the international agenda (Hough, 1995). Recognizing that urbanization and industrialization were dominant sources of stress on these environments within cities, an international conference focusing on human settlements, Habitat' 76, was held in Vancouver.
[3] The International Union for Conservation of Nature and Natural Resources (IUCN); the United Nations Environment Program (UNEP); and the World Wildlife Fund (WWF) prepared this strategy.

Several critics evolved around the Brundtland report. It was regarded as a "call for political action" towards integrating environment and development (Stren et al, 1992). Colby points out that:

> In many respects, the Brundtland Commission said little that was not said at Stockholm, though perhaps it was said with more widespread participation and urgency. However, the ideas that sustainable development is necessary and that it requires careful management of the resources – are now in good currency (Colby, 1990:3)

A central feature of the sustainable development debate was the controversy surrounding the Brundtland Commission's (WCED, 1987) declared view that economic development is essential to meeting the social goals of sustainable development. The critics of this view hold that economic growth within the currently dominant market-driven mode is largely responsible for environmental degradation; therefore we need to question whether continued economic expansion of this type is either desirable or acceptable (Girardet, 1996; Mitlin and Satterthwaite, 1994). Haughton and Hunter (1994) point out that

> It is precisely because the Brundtland report's growth-compatible vision of sustainable development version is more politically acceptable that it has gained large political support, while more radical views have remained a marginalized part of the sustainable development discourse (Haughton and Hunter, 1994: 28).

This debate brings the analysis to the varying possible interpretations of the sustainable development concept: these have been described as running along a spectrum from "weak" to "strong" interpretations (Jacobs and Sadler, 1990). Proponents of the weak version are held to have a largely anthropocentric worldview. This view sees considerable scope for technological solutions for environmental problems, and in particular the substitutability of natural capital with human capital, as in the instance for replacing fossil-derived energy with new technologies for capturing tidal energy. Versions of environmentalism that support this view are generally regarded as light green in that they avoid to seek radical transformations in favor of preserving natural assets (Pepper, 1996).

By contrast, the strong versions of sustainability hold a more nature-centered world view. This view seeks to prevent destruction of natural assets beyond their regenerative capacities by reducing overall consumption levels, and to avoid unnecessary high risks associated with some untested technological solutions. In particular, the strong sustainability perspective supports the integrity of ecosystems (O' Neil, 1997). With this on-going debate regarding the concept, there was an evolving interest in addressing the urban contribution to sustainable development.

1.2. THE CONCEPT OF SUSTAINABLE URBAN DEVELOPMENT

Until the present decade urbanization and urban areas were rarely discussed within the context of sustainability other than as a contributory factor to the world's environmental problems[4]. Lately, however, this tendency to discuss urbanization and sustainability as separate entities has changed. Rapid urbanization has occurred in the last few decades in numerous cities. Further, the centrality of cities to the development process provides yet another compelling reason behind the impetus to integrate the concept of sustainability within the urban setting.

There exists an extensive literature on components that might constitute sustainable urbanization; for example, on the provision of basic needs, poverty, urban management, and economic growth. Seldom have these components been amalgamated to provide a conceptual basis regarding sustainable urban development as a whole.

In the 1990s, this limitation changed substantially following the recognition of significant contribution of cities to the development process and the urgent need to cope with rapid urbanization (UNDP, 1991; World Bank, 1991). As a result, several important texts have been written on the subject of sustainable urban development (e.g., Stren et al, 1992;

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[4] Gariepy et al (1990) pointed out that several reasons exist for the absence of a sustainable development application in various urban areas. First, the concept of sustainability originated in forestry and agronomy. Second, most of the literature on sustainable development mainly focused on issues related to managing natural resources and/or development problems within developing countries.

Haughton and Hunter, 1994; Girardet, 1996; Pugh, 1996). Additionally, the concept was held as a central concern for several initiatives and events. For example, UNCED's action plan for the twenty first century[5], Agenda 21, espouses sustainable urban development as a goal for actions related to the management of urban environmental problems (UN, 1993). Moreover, themes of participation and community-based action are highly emphasized in such plans[6] (Stren and Bell, 1995; Mitlin and Satterthwaite, 1996).

It is interesting to note that the terms "sustainable urban development" and "urban sustainability" are often used interchangeably in the literature. There appears to be no substantive difference in the meaning, but simply in the wording (Mclaren et al, 1995), however, there are two levels at which the question of the similarity of these definitions can be addressed and challenged. The first represents a broad philosophical approach, in which the objectives of sustainability in an urban context are established. The second revolves around particular issues, components and characteristics around which the concept is structured.

Whereas the literature provides many definitions of sustainable urban development and related concepts[7], almost everyone who has tried to define sustainable urban development agrees that the essence of the concept is the introduction of environmental considerations to the policy debate over future patterns of urban development (Maclaren et al, 1995). The term, however, continues to mean different things to different people[8]. A review of the more seminal works on the subject will serve to illustrate the various components of the concept.

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[5] The United Nations Conference on Environment and Development (UNCED), or the Earth Summit, was held in Rio de Janeiro in 1992.

[6] These themes were first stated in "What now? Another Development" in the 1970s. Agenda 21 has restated them with an emphasis which was lacking in the Brandt reports (Reid, 1995).

[7] related concepts are urban sustainability, community sustainability, sustainable cities, ...

[8] Ambiguity may be a tactical strength, however. Stren et al (1992:4) argue that in some ways, "lack of precision may be an advantage in capturing the imagination and support of a wide range of political groups and intellectual currents in a dispersed and fragmented environmental movement".

First, the concept of sustainable urban development implies a **process**, one which leads to more sustainable urban areas rather than desired end points or goals. For example, the Canadian Environmental Advisory Council defined the concept as

> a process of change in the built environment which fosters economic development while conserving resources and promoting the health of the individual, the community and the ecosystem (recognizing that … the urban environment cannot be separated from the region of which it is a part) (Richardson, 1989).

To others, the concept invokes a **vision** of individual and community well being, economic sustainability, and a clean, healthy environment. Richardson defines community sustainability as:

> The active pursuit of modes of economic development that are not just environmentally friendly but which also offer the community long-term economic stability, diversity and prosperity (Richardson, 1995).

Further, Haughton and Hunter define a sustainable city as

> One in which its people and business continuously endeavor to improve their natural, built and cultural environments at neighborhood and regional levels, whilst working in ways which always support the goal of global sustainable development (Haughton and Hunter, 1994:27).

The *Vision 2020* report prepared by the Regional Municipality of Hamilton-Wentworth defines urban sustainability as

> a positive change which does not undermine the environment or social systems on which we depend. It requires a coordinated approach to planning and policy making that involves public participation. Its success depends upon widespread understanding of the critical relationship between people and their environment and the will to make necessary changes (Regional Municipality of Hamilton-Wentworth, 1993:4).

For the British Columbia Round Table on the Environment and Economy, urban sustainability means

… achieving an equilibrium between human impacts and the carrying capacity of the natural world which can be sustained indefinitely. Sustainability takes into account three interdependent elements: the environment, the economy, and the social system. A balance between these elements will demand the adoption of a new ethic, a new lifestyle and new expectations to ensure our collective survival. Sustainability is the key to our future quality of life (BCRTEE, 1994: 5).

Elkin and associates argue that "sustainable urban development must aim to produce a city that is user-friendly and resourceful, in terms not only of its form and energy efficiency, but also its function, as a place for living" (Elkin et al, 1991:12). Further, the World Health Organization also points out that "sustainable urban development should have as its goal that cities continue to support more productive, stable and innovative economies, yet do so with much lower levels of resource use" (WHO, 1992: 102).

Finally, for others, the concept is still simply an **ethic**. Pugh (1996) has described sustainable urban development as an "evolving ethic". He points out that the concept can bring fundamental changes in human values, priorities, behavior and lifestyles to avoid a total collapse of our cultures, civilizations and environments within the urban settings. Girardet (1996) suggests that the concept is a normative ethical principal and thus the precise definition will depend on any society's operative set of values, in such a case, wide variations from the 'norm' will exist.

Defining sustainable urban development could be an amalgamation of all these notions and encompasses the development of a process, a vision or an ethic of what would constitute a sustainable urban area, as well as core principles, values, goals and objectives. As such, this would provide a long-term focus to guide planning, intervention and management: a basis for addressing more issues and problems affecting urban areas. Because sustainable urban development means different things to different people, it would be difficult to establish such a basis unless key characteristics of the concept are clearly defined.

The characteristics of sustainable urban development most frequently outlined in the literature focus on environmental, social and economic issues[9]; less agreement among the academic community and various agencies exists on the relative importance of each of these characteristics in defining the concept of sustainable urban development[10] (Girardet, 1996). Some say that environmental and biophysical considerations should now be paramount in this debate while others argue for a balanced integration of environmental, economic, and social considerations. The following outlines the concept's characteristics.

a. *Environmental Sustainability*:

Several authors provide a definition of the concept that might appropriately be labeled "environmental" urban sustainability. Jacobs (1991:70-71) states that

> it means that the environment should be protected in such a condition and to such a degree that environmental capacities are maintained over time: at least at levels sufficient to avoid future catastrophe and at most at levels which give future generations the opportunity to enjoy an equal measure of environmental consumption (Jacobs, 1991:70-71).

The key issue in this definition is about the carrying capacity or what Jacobs refers to as environmental capacities. Girardet (1996:30) defines **carrying capacity** as "the capacity of an ecosystem to support healthy organisms while maintaining its productivity,

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[9] There has also been some discussion of "**cultural sustainability**" because of the need within the human society to develop shared values, perceptions and attitudes which help contribute to the achievement of sustainable urban development (for example, see the environmental strategy of CIDA, 1991 and 1995). It is clear that development should include as a critical component the respect for cultural patrimony (personal communication with Prof. Peter Jacobs - see also Gadgil, 1987). Culture implies knowledge, and a vast wealth of traditional knowledge of relevant sustainable natural resource use is ignored or given little attention in development plans (Hough, 1995). But the term "cultural sustainability" seems rather imprecise for the need to recognize the importance of culture and respect within development. Culture is never static; to argue that it should be sustained is to deny an important aspect: its changing and developing nature. Consequently, culture is included in this paper as a fundamental component of social sustainability.

[10] There is also considerable confusion as to which scale should be sustained (e.g., local projects, districts, cities, regions, nations, the sum of all activities globally). See Reid (1995), Mitlin and Satterthwaite (1996), and Pugh (1996).

adaptability, and capability for renewal"[11]. Until now, no consensus is reached on how much is enough because the vast majority of people act as if there were no immutable limits to carrying capacity, however, this seems logically impossible (Hough, 1995).

b. *Social Sustainability:*

Not all aspects of social sustainability are necessarily related to environmental urban sustainability, although many linkages may exist. Mitlin and Satterthwaite (1996: 16) state that the term is used to "characterize any path to the kind of just, comfortable, and secure future to which everyone aspires".

Satisfying the basic human needs of an urban population is the key objective for social urban sustainability. Basic human needs embody goods and services relating to nutrition, health, education, housing, and access to jobs as well as provisions for sanitation and drainage. The emphasis is on an equitable satisfaction of basic needs for all classes within the urban societies, particularly the urban poor[12]. It is about the intra-generational condition of ensuring equitable access to resources within the current generation (Mitlin et al, 1996).

c. *Economic Sustainability:*

Economic sustainability implies that local economy is both stable and diversified (Richardson, 1994). A key objective is to be responsive to changing circumstances, and to be able to attract new investments so that opportunities for employment and investment will be available to all people in both the short and long term (Reid, 1995). It also means,

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[11] According to Rees (1992:125), carrying capacity can be interpreted as "the maximum rate of resource consumption and waste discharge that can be sustained indefinitely in a given region without progressively impairing the functional integrity and productivity of relevant ecosystems".

[12] For a comprehensive review of meeting basic needs, particularly for the urban poor within the developing cities, see *Environment and Urbanization* vol. 4 (2) and vol. 8 (1), as well as *Third World Planning Review* vol. 16 (2). A good discussion of these issues is also presented in Hardoy et al (1992).

however, that economic activities have minimal impact on the natural environment and are efficient in their consumption of resources (Maclaren et al, 1995).

Enhancing urban economic self-reliance is a valuable method to meet this objective. However, Haughton and Hunter (1994) state that total urban self-reliance may be a neither realistic nor desirable economic goal in an era of globalization. Therefore, self-reliance does not mean that communities become isolated, but rather they develop the capacity to respond to local concerns while recognizing that local needs should be balanced against regional, national, or global sustainability goals.

The challenge still remains to include each of these three components in any definition of the concept, and to recognize their linkages and inter-relatedness. Richardson recently proposed that:

> Urban sustainability involves the complex and difficult task of finding balances among social, economic, and environmental pluses and minuses, between short and long-term considerations, and between immediate interests of a part of the population and the more diffuse interests of everyone (Richardson, 1995:35).

This three part model has been emphasized by the Brundtland Commission (WCED, 1987) and reinforced by Jacobs and Sadler (1990), thus helping to bring the concept of sustainability from a princely theoretical idea to a more applied potential practice.

1.3. THE CHALLENGE

The rapid urbanization that has occurred in the last few decades has emphasized the increasingly important role of cities in achieving sustainable development. The urban context, however, has been shaped primarily by economic goals rather than social or environmental implications. This situation has contributed to increase the stress within cities and the misuse of natural resources both within and outside the urban fabric. Growth generated in and by urban development continues to negatively impact the natural environment.

As environmental issues become increasingly important for the future of cities, it becomes imperative to articulate new goals in the planning and management of urban development. How can a city be made environmentally and socially, as well as economically, a better place in which to live? The achievement of sustainable urban development is a viable response to this challenge.

The concept aims to integrate environmental conservation concerns with urban development issues, whilst social equity remains a precondition for its achievement. Environmental concerns include the challenge of maintaining the ecological integrity of the urban environment by protecting the diversity of its ecological system and respecting its carrying capacity. To be sustainable, urban development should be based on human activities that reduce its exploitation and the misuse of these environments and related resources, for example, generating less waste and minimizing the use of non-renewable resources. Another key objective resides in achieving both inter-generational and intra-generational equity within the urban society through meeting basic human needs and providing society's members with the opportunity for self-determination. This self-determination refers to the capacity to choose, plan, and manage one's own future to achieve development (Blowers, 1993).

Progressive change is essential to address these goals and clearly a participatory process involving all agents of change will be required to meet this challenge. Brown and Jacobs argue that:

> This challenge involves much more than simply sustainable utilization, where a balance between human activities and resource use is maintained. *Progressive change* is essential to redress inequities in the distribution of environmental amenities and, to support a fundamental characteristic of humans, the drive for a sense of personal effectiveness (Brown and Jacobs, 1996: 494).

Consequently, intimate knowledge of the people in question, their cultural and social values, and their potential for innovations are key issues within the process. The process

must also include a multidimensional perspective of the urban environment, and should be structured to act on priorities with a long-term view. Its flexible, integrated nature will respond to the dynamic urban and environmental contexts.

New institutional structures will be the medium through which actions, initiated by the urban development process, are to be implemented. This institutional framework could assume the shape of a committee, a task force, a forum or a partnership. Within such a framework, key agents of change such as governmental, private, and community agencies, would negotiate their particular interests and resolve their conflicts in order to build a consensus regarding the common goals of sustainable urban development. They must also strive to coordinate their responsibilities both vertically (among them) and horizontally (within the same level).

In conclusion, sustainable urban development is rightly perceived to be a continuous process. This process is accumulated, assessed and applied throughout the experience of managing complex systems, such as natural environments within the urban fabric. The aims are to integrate environmental conservation concerns with urban development, and to achieve progress towards social equity and self-determination. A key challenge then is to find the appropriate tools to integrate the principles of sustainable urban development in environmental planning and management.

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Chapter II

NATURAL ENVIRONMENTS WITHIN
THE URBAN FABRIC

This Chapter consists of three interrelated sections. The first examines the value of natural environments within the urban setting. The second section deals with the stress caused by human activities on valued environments within urban settings. Finally, the third section presents the research problem with respect to the management of valued natural environments.

2.1. VALUED ENVIRONMENTS

A plethora of environmentalists, philosophers, social scientists, and economists have expressed concerned with the "value" of natural environments. In its most general usage in the pertinent literature, "value" refers to the importance, the worth, and/or the utility related to an object, such as a natural environment (Selman, 1992). This definition, however, throws absolutely no light on that which brings about a decision regarding the protection and management of a natural environment within the urban fabric. As will be shown, each discipline's proponents reflect facts unique to their respective areas of endeavor.

Philosophers have defined value as a concern with what creates and measures worth and good (Pepper, 1996). At a scientific level, the value of such an environment mirrors the sum of all biological and physical elements of a specific ecological system (Terrasson, 1985). In the social sciences, "value" denotes any object, such as a natural environment, of any need, attitude or desire (Gould and Kolb, 1965). It must be noted, however, that in most instances in the social sciences, value is used only in those cases where an actual interactive relationship exists between needs, attitudes and desires on the one hand, and

the object on the other. In the realm of economics, value has two different meanings: sometimes it expresses the utility of a particular object (use value or utility), and sometimes the power of purchasing other goods which the possession of that object conveys (exchange value) (Pearce, 1995).

The following sections seek: (a) to review the nature of values allocated to natural environments and whether these values are intrinsic or instrumental, objective or subjective[13]; and (b) to examine various values carried by these environments.

2.1.1. Nature of the Value System: Intrinsic Value versus Utilitarian Value

While many definitions exist for the term "value", there are questions about the nature of this value. The emphasis in these questions is centered on two concerns. The first relates to whether a natural environment might have its own intrinsic value, a value that is inherent, and does not depend on the ideas, preferences or prejudices of an external valuer. The other concern is whether the representation of how individuals value a natural environment rests, instead, on the assumption of a utilitarian ethical belief[14] that refers to an instrumental value.

Intrinsic[15] value means the value a thing has in itself, as opposed to the value it has as means to some good (O'Neil, 1997). Green theory, for example, sees nature as a prime source of worth (Goodin, 1992), implying goodness and worth in a natural environment in itself, apart from any usefulness to humans (Pepper, 1996). Intrinsic value has been defined by Callicott (1986) as value which exists independent of the utility of the object

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[13] Some philosophers and environmentalists find it useful to separate value into three types: intrinsic, instrumental, and systemic. The concept of systemic value seems not to be a different kind of value, but rather a recognition that intrinsic and instrumental values are inseparable (Scoville, 1995). Others make a distinction between intrinsic value and moral standing (O'Neil, 1997).

[14] Utilitarian ethic is based on the maximization of human values or on human survival, and places the ultimate importance on the consequences of action (a teleological perspective). See Hanley and Milne (1996); and Scoville (1995).

[15] Rolston (1988) refers to this concept as "objective value". However, O'Neil (1997) argues that intrinsic value and objective value are independent concepts. It is not the purpose of this paper to take a position on this question.

being valued to the valuer or its use to someone other than the valuer, that is, independently of human satisfaction. Devall and Sessions (1985:71) also describe inherent value as "independent of any awareness, interest or appreciation by a conscious being" (Devall and Sessions, 1985: 71), that is, it is not merely in the eye of the conscious beholder; it is objectively there. Rolston states that intrinsic value is, thus, the value of the environment "for what it is in itself"[16] (Rolston, 1988: 217).

Belief in intrinsic value follows from a deontological perspective of value (Hanley and Milne, 1996), and signifies that acts, such as the felling of a forest, for example, are more important than the consequences of these acts; the utility changes following the felling of the forest, and the ends do not justify the means. This is the opposite viewpoint to the teleological perspective which lies behind a utilitarian ethic, such as a monetary cost-benefit analysis[17]. Belief in intrinsic values may, alternatively, follow from held spiritual values for places and creatures, for example, the reverence with which the First Nations of North America view "Mother Earth" (McIntosh, 1995).

Intrinsic value, thus, can have two meanings as so succinctly summarized by O'Neill. First, it is a synonym for non-instrumental value, so natural environment is not a means to an end, but an end in itself. Second, it has value in terms of its own properties, not simply in its relationships to other entities; for example, a forest may have a value regardless of whether or not it is the only one of its kind. These meanings lead "intrinsic value" to be a synonym for objective value, that is, value resides in nature independently of those who might also value it. Consequently, if all human life ceased, the rest of nature would still have value and worth (O'Neill, 1993: 8-25).

The idea of "intrinsic value" has attracted much critical attention from both inside and outside the arena of environmentalists. First, if non-human nature has "objective" value

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[16] Rolston's value theory is based on the concept of intrinsic value that he finds objectively present in the natural world. See Rolston (1988) and (1989).

and worth, that is, that it is not dependant on human valuation, this implies that humans and nature are separate (Pepper, 1996). The term 'separate' is used here in the Cartesian sense of humans, as subject, separate from nature, as object. Yet, this could contradict deep ecology's own conception of them as part of each other (Vogel, 1988).

Second, the idea of objective value could be held to justify nature by itself, without reference to humans, so that if humans were removed from earth there would still be value in the rest of nature continuing. Yet, the very notion of value, worth, and rights are human ones: human concepts, assessments and valuations imposed upon nature (Pepper, 1996). While O'Neill (1993) argues that it is quite feasible for us to decide that a world without humans has value, it is still "we" who are making this decision (Pepper, 1996:51).

Third, Callicott (1985), among other deep ecologists, points out that such intrinsic value cannot be defended rationally, only asserted. By contrast to Devall and Sessions (1985), Callicott argues that all qualities and attributes are really subjective, depending on the observer, and this implies in turn, that the worth of non-human nature ultimately depends on the consciousness of the observer, that is, human consciousness (Callicott, 1985).

Niehuhr also rejects the concept of intrinsic value, arguing that value exists in relationship and nothing is valuable except in terms of its relationship to others (Niehuhr, 1970: 100-113). Weston, in his critique of intrinsic value, makes much the same point when he argues that values must be viewed in their contexts and relationship with others, rather than in isolation (Weston, 1985: 330).

As a result, the representation of how an individual values a natural environment rests mainly on an assumption about an utilitarian ethical belief (Spash and Hanley, 1985). Utilitarians place ultimate importance on the consequences of actions, namely a teleological perspective; utility is the ultimate consequence, so that all such individuals are

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[17] While the teleological perspective is based on the image of "man the maker", the deontological perspective focuses on "man the citizen". Whereas teleology asks, "what is the good?", deontology asks "what is the right?". See Rolston (1988) and Scoville (1995).

interested in is comparing alternative states in terms of the amount of utility they generate, irrespective of how this occurs (Hanley and Milne, 1996). The environment is valued as it is useful to humankind. This view - which is clearly based in an anthropocentric perspective - presents nature as instrumental. Rostlon refers to this concept as subjective value, defined as a value dependent on the subjective attitudes, preferences and other mental states of conscious beings (Rostlon, 1988: 94). Criticizing the anthropocentric instrumental approach to valuing the environment, Fox, among other deep ecologists, considers that humans are not outside or above nature, or even at the universe's center, being just one of its constituencies. Consequently, humans cannot be the arbiters of the value of the rest of nature which has rights (Fox, 1990: 11-17). Nash, however, argues that:

> Rocks, just like people, do have rights in and of themselves. It follows that it is in the rock's interests, not the human interested in the rock, that it is being protected[18] (Nash, 1977: 10; cited in Merchant, 1992:76).

To conclude, the nature of the value system regarding natural environments remains debatable. Rolston points out that "even in scientific theories, hard proof is impossible" (Rolston, 1988: 215) when examining the issue of value provided objectively against the counter-belief that value arises only as a product of subjective experience.

Whether intrinsic or instrumental, objective or subjective, or whether viewed from a deontological or teleological perspective, a natural environment has a value; the aesthetic value of a natural environment is but one of the examples that support such an argument. On one hand, the beauty of a forest or river is treated alongside recreational use as an instrumental value; beauty is understood to be whatever happens to delight people, thus, it seems to make a case for protection (Thompson, 1995). On the other hand, varying philosophers and environmentalists also regard the same value as an intrinsic one, that which is worthy of respect for its own sake, and, therefore, something we have an ethical

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[18] As a result of the belief in an intrinsic value of natural environments, a rash of legal actions, particularly in the USA, in the late 1960s and early 1970s (the take-off era of the environmental movement) has emerged "on behalf of" threatened species and landscapes (O'Riordan, 1981: chapter 8). By contrast, much environmental law today, in the 1990s, centers on the adverse-effects to humans of

duty to protect (Hargrove, 1992). Within both perspectives, aesthetic value is an element with which people can identify and appreciate. Thus, the appeal to such a value can provide a satisfactory and defensible ground for protection of valuable natural environments. Querying the values carried by natural environments will also lead to the establishment of an inventory of how these environments are valuable to people in cities, with the subtle advantage that the term "carry" allows us to switch-hit on the question of objectivity and subjectivity (Rolston, 1988).

2.1.2. **Values Carried by a Natural Environment**

2.1.2.1. <u>Non-Monetary Values</u>:

The environment has over the last few decades assumed a place on cultural and social agendas (Burgess et al, 1991), wherein the proposed loss of a "valued" local area, not necessarily of any particular economic or scientific note, may become a key issue in local political debate. Charles (1995), Hough (1995), Pepper (1996), Rolston (1988) and O'Riordan (1981) are among the many authors who have stressed attaching cultural, symbolic, social and/or idealistic importance to the environment.

Natural environments provide cultural and historical values in many ways. East and/or west, every culture remains resident in some environment. For example, the Egyptians and Pharaohnic civilization are deeply related to the River Nile and its valley. Europeans also possess significant historical memories associated with natural environments: the British with the moors; the Germans with the Black Forest; the Greeks with the sea. Even in Canada, with a relatively recent heritage of some four hundred years, forests, prairies and mountains must be protected as witness landscapes for following generations to appreciate their forefathers' experiences. People in every nation and city need to perceive their natural environments as museums, as teaching places depicting how the world was in its pristine glory, prior to our relatively recent arrival. Without this history, Rolston (1988) argues

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environmental damage as human concepts are imposed on the non-human world (Hughes, 1992).

that humans would be seriously blind to who and where they are. Consequently, a natural environment becomes a sign that points beyond itself, and, in this sense, its value is not assigned but cultural and historical.

The cultural-symbolization potential of natural environments is a repeated feature in many different places and cultures. Pepper (1996) argues that no culture develops in independence of the environment on which it is superimposed. Mount Royal, for example, provides a symbolic landmark for the city of Montreal in Canada (Jacobs, 1989). Yet another example is Horsetooth Mountain; overlooking the city, it also provides the logo for Fort Collins, Colorado in the United States. To further the case, some authors emphatically claim that an encounter with the natural environment is often related to our mental health (Rolston, 1988). These environments provide a place in which one may take calculated risks or, perhaps, simply to reminisce over success and failure. In other words, they provide an ideal setting in which to contemplate and learn to care for one's physical and mental health, and, are deemed by many to have character-building value (Pepper, 1996).

Recreation is, clearly, an important land use for natural environments within cities. This recreational value evolved from the Romantic Movement in the expanding cities of Europe and United States in the nineteenth century (Brunn and Williams, 1993; Hall, 1992; Laurie, 1979). It was felt that by providing space for exercise, natural environments would improve the health of the people in cities and their moral standards. In addition, having aesthetic value[19], these environments would improve the appearance of cities while enriching the human experience of their citizens. Mount Royal in Montreal and Bois-de-Boulogne in Paris are testament to this period of extraordinary social conviction and purpose (Ritchot, 1989). The trend, far from diminishing, has flourished; with a continuing expansion of cities since the nineteenth century, recreational and aesthetic values of natural environments within the urban fabric remain significant. The natural environment

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[19] Thompson (1995: 292) compares between valuable natural environments and great works of art. Because both carried aesthetics worth, she argues that there is an ethical obligation to protect them.

rush becomes largely the search for a mythical paradise, however fleeting, compared to the daily routine of work in cities perhaps lacking such amenities (Terrasson, 1985). Studying a number of Canadian and American cities, Michael Hough examines the relationship between recreational activities and various places within the urban fabric. He concludes that recreational needs of urban people are changing with the creation of new living conditions in modern cities. Natural environments remain, however, the most attractive places within the urban fabric for an important number of recreational activities (Hough, 1995: 137-143).

In addition to these various aspects of non-monetary values, scientific approaches to natural environments assess their value in terms of the diversity and/or rarity of species within particular habitats (Smith and Theberge, 1986). Rolston points out that natural environments can serve as the object of scientific studies which help to teach something about the complexity of nature (Rolston, 1988: 9). Natural environments, therefore, also provide an opportunity for an intellectual venture into learning more about various species and their habitats within the urban fabric (Bourdages et al, 1992).

2.1.2.2. <u>Monetary Value</u>:

An alternative method of valuing the environment is through the application of a monetary value. Here, money is used as a store of value, and economic valuation becomes an exercise of estimating the worth that individuals place on the environment (Powell et al, 1996). Whilst a degree of subjectivity cannot be avoided, Pearce and associates argue that this method at least allows the comparison of impacts on a common scale, and the determinants of values can be made clear (Pearce, 1993a; 1993b; Pearce and Warford, 1993; Turner et al, 1994).

An economic value of a natural environment is based on the amount of utility it generates to individuals, a teleological perspective. As a result, this value has often been measured by the individual's loss of well being because of environmental degradation or as the result

of losing an environmental asset (Boucher and Whatmore, 1993). Within this framework, the measures can be found in the concepts of expressed or revealed "willingness to pay" (WTP) and "willingness to accept compensation" (WTAC) (Pearce, 1991 and 1995; Pearce et al, 1989; Jacobs, 1991; Turner et al, 1994; Powell et al, 1996; Hanley and Milne, 1996).

With respect to the urban context, the value of a natural environment within a city depends on its effect in terms of health, productivity, amenity and other key indicators. For example, effects on amenity include water and air quality, noise levels, and the presence of clean open spaces. Moreover, in examining health and safety effects, key-indicators for its value can include health care costs and loss of working days. In a polluted environment, the risk of illness among urban workers amplifies, and that increases the loss of working days and productivity.

In fact, many economists[20] see natural environments as public goods (Powell et al, 1996). In mainstream economic analysis, public goods are distinguished by two features: first, no market price exists; and second, consumption by one individual does not prevent that of another, hence both individuals enjoy equal user rights over, if not ownership of, the good or benefit (Turner et al, 1994). Consequently, natural environments become everyone's property, and consumption of their resources is unrestricted by the ability to pay which, in turn, increases the possibility of the gradual deterioration of such environments[21] (Barde, 1989). This argument mirrors Hardin's concern about the tragedy of the commons, which will be detailed in chapter four.

As a result, there is no possibility of assigning a monetary value to natural environments in every case. Although decisions usually depend on the relative worth of the gain or loss calculated in monetary terms within a limited economic perspective, non-monetary values

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[20] In contrast to Marxists who argue that natural environments cannot be readily reduced to a consumable input into the market (Benton, 1991).
[21] In the market context, where willing consent is required for action, Pearce (1995) argues that public goods will be under-supplied. To correct this, governmental action, in form of tax collecting, is instituted.

may be the most important of all for many environmental assets (Serageldin and Steer, 1995). This need not be a problem as long as a sensible attitude towards the estimation of economic values is adopted, that is, that such estimates are only partial. In a study related to measuring the economic value of a natural environment situated in the island of Las Palmas de Grand Cannaria (Spain), Leon demonstrated that willingness-to-pay is significantly determined by sociological variables and subjective motivations of the environment's users (Leon, 1996). As a consequence, decisions regarding natural environments need to be informed not only by such economic calculations, but also by the expressed views of people living within these environments (Serageldin and Steer, 1995).

2.1.3. **Summation**

The nature of values carried by natural environments remains, not surprisingly, debatable among environmentalists, philosophers, and social scientists. However, whether a natural environment has an intrinsic or instrumental, objective or subjective, value, it is also apparent from the discussion, up to this point, that this same environment probably carries cultural, historic, symbolic, recreational, aesthetic, scientific, and/or economic values. To give a simple example, a forest within the urban fabric has multiple values. On one hand, it might be used for recreation, hunting, observing nature, flora and fauna, as well as providing a habitat for some. On the other hand, the same forest might also be a source for timber production which could be used in construction or furniture manufacture. A natural environment within a city is recognized as being valuable, regardless of perspective.

2.2. STRESS WITHIN THE URBAN FABRIC

Increasingly, human activity is degrading natural resources, damaging environmental and ecological systems around the world. With urban residents predicted to account for more that 50 % of the world's population by the year 2025, human activities within cities are, necessarily, a central concern with respect to the degradation and damage of valued natural environments within the urban setting.

The following section is based on the assumption that significant stress[22] on natural system is occurring in all cities due to the nature and extent of human activities. This section questions on whether urbanization improves or threatens the environment. It focuses on water pollution as an example of stress to better appreciate the magnitude of urban related environmental pressures.

2.2.1. Urbanization and Environmental Stress:

There exists an argument that urbanization may actually improve the environment in indirect ways (USAID, 1994). Birth rates are three to four times lower in urban areas than in rural areas, for example, thereby reducing environmental pressures from population growth (World Bank, 1992). Cities can provide better opportunities to educate residents about environmental pressures and mobilize residents around these issues (Stren et al, 1992). Additionally, many cities are taking an active role in environmental management, from developing local strategies to protect regional natural resources to joining forces in an effort to reduce global greenhouse gas emissions (White, 1994).

Yet, along with the benefits of urbanization come environmental and social ills. According to Bartone and associates, cities are both engines of growth and sources of concentrated environmental problems (Bartone et al, 1994). As centers of population and human activity, cities consume natural resources, renewable and non-renewable, from both near and distant sources (Haughton and Hunter, 1994). They also generate waste that is disposed of both inside and outside the city. In the process, urban areas generate environmental problems over a range of spatial scales: local and global (Stren et al, 1992). Traditionally, cities have been seen to be unecological (Trepl, 1996). In a similar vein Odum claims that "the city is a parasite on the natural and domesticated environments, since it makes no food, cleans no air, and cleans very little water to a point that it could be

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[22] Human stress has been generally defined as the affective, behavioral, and physiological response to aversive stimuli (Glass and Singer, 1984). Throughout this thesis, environmental stress can be defined as the threat or anticipation of future harm due to the deterioration of environmental conditions within the urban fabric. This stress imposed on the natural environment is a result of human activities within the urban setting.

reused" (Odum, 1989: 17). Similarly, Friedman asserts that "the city is a cancer, an overgrown organ which takes all the food, so much food it can no longer perform its proper function" (Friedmann, 1984: 48-9). Consequently, as Mayur argues, "only a catastrophe awaits such a system of disharmony" (Mayur, 1990: 38).

Clearly, human activities are a principal cause of environmental problems in cities. These activities may take the form of neglect, misuse, exploitation or pollution of natural environments and their related resources. Throughout the history of urban development as well as in its contemporary forms we have witnessed the negative impact of human activity on natural environments within cities. This impact has evolved rapidly from the 19th century modern industrilization (Hough, 1990). During this urban industrial phase, cities were characterized by a seemingly insatiable appetite for energy and non-renewable resources, and a burgeoning quantity of gaseous and chemical wastes . Haughton and Hunter argue that this phase has been "deemed non-sustainable" in large part because of "the inefficient, highly resource hungry nature" of human activities within cities (Haughton and Hunter, 1994: 4).

Unfortunately, the same destructive momentum continues unabated in today's cities (Hough, 1995), some of the worst of these problems occurring in the poorest of the world's cities. At least 220 million urban dwellers world-wide lack access to clean drinking water; more than 420 million do not have access to the simplest latrines (WRI, 1996). Lacking adequate access to sewerage networks, the residents of vast, informal settlements in developing countries are dumping their waste-waters into rivers, lakes and coastal waters nearby or in close proximity to their cities (Bartone et al, 1994). Furthermore, throughout the developing world, between one and two thirds of the solid waste generated is not collected (Hardoy et al, 1992). It piles up in streets, drains or in a

nearby forest, contributing to flooding and the spread of disease. Urban wastes under such circumstances especially, may quickly overtax the ability of local ecosystems to assimilate them[23].

Environmental stresses are also severe in cities experiencing rapid economic growth; it is common knowledge that many industrial activities cause severe air pollution within cities. According to the World Health Organization (1993), more than one billion people live in urban areas where air pollution levels exceed healthful levels. In cities around the world, domestic and industrial effluents are released to waterways, rivers, and lakes with minimal or no treatment, threatening both human health and aquatic life (WRI, 1994). Environmental problems are also related to profligate resource consumption. Not surprisingly, the highest levels of resource use and waste generation tend to occur in the wealthiest cities and among the wealthier groups within those cities (Hardoy et al, 1992: 10). For example, the massive energy demand of wealthy cities constitutes a major contributor of greenhouse gas emissions (NRC, 1993).

To appreciate more fully the nature and magnitude of human activities and related stresses on natural environments within the urban fabric, problems related to water pollution have been selected to demonstrate current practices in cities and the strains these practices impose on water resources, both locally and globally[24]. There are a number of reasons to focus on water pollution, not the least of which is the fact that many cities are built along or in close proximity to rivers, lakes, and coastal waters. Of the world's 100 largest cities, thirty-six are in coastal regions (Bartone et al, 1994: 15).

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[23] Issues such as waste disposal, urgent sanitation and related health problems are referred as the "Brown Agenda" which is a set of problems closely linked to the poverty-environment nexus (Bartone et al, 1994; UNEP, 1995).

[24] In reality, air, water and land are interrelated. Many pollutants are readily transferred between air, water and land, thanks to precipitation, dry deposition from the atmosphere to land and water, gas exchanges between the atmosphere and water bodies, and the storage and movement of pollutants through the actions of organisms. The problem of acid deposition provides an example where pollutants released

2.2.2. **Water Pollution as a Stress**

Human activities in cities, which are usually characterized by a high resource consumption and waste production, exert an indisputable influence over the contamination of water resources (Haughton and Hunter, 1994). The degradation of these resources via numerous forms of urban stress is, in turn, a significant threat to ecological integrity and to the sustainability of many human activities[25].

There can be no debate that water pollution adversely affects the functioning of aquatic ecosystems, human health, industry, transport and the aesthetic and amenity value of water (WRI, 1994: 181-194). Lake Maryut in Egypt, for example, receives much of the domestic and industrial waste from the city of Alexandria. Such extensive pollution has resulted in an 80% decline in fish populations and a complete loss of tourism activities over the last decade (Hardoy et al, 1992). Human activities within cities are directly responsible for many water pollution problems both within and beyond urban boundaries.

2.2.2.1. Human Activities and the Ecological Processes:

Urban-generated water pollution comes in a variety of forms, from both localized (point) and dispersed (non-point or/and multiple) sources. Major point sources include municipal sewage, industrial outfalls and emissions from power plants and heavy industries. Non-point sources include silt from earth moving activities, storm runoff from roads and industrial sites and infiltration from acquifers contaminated with sewage or industrial chemicals.

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into the atmosphere can be converted into forms which may be harmful to aquatic ecosystems. See Tolba and El-Kholy (1992); Goodie (1990); and Harrison (1990).

[25] Water has multiple uses: industrial (cleaning, washing, cooling, etc.); commercial (transport, processing, etc.); agricultural (irrigation, washing, animal drinking, etc.); recreational (fishing, swimming, boating, etc.); human personal (drinking, washing, cleaning, etc.); and wildlife habitat (water species, habitat, wetland support, etc.).

Furthermore, the impact of water pollution arises both through the actions of individual pollutants and through the effects of pollutants in combination. Moreover, multiple point sources of pollution along a river can create cumulative problems (Goudie, 1990). Many rivers running through urban areas, for example, contain multiple industrial pollutants including oil products, heavy metals, nitrates and sulfates. It is often very difficult to determine the full range of substances and their precise quantities in a polluted river (Miller, 1992). Table (2.1) includes several major classes of water pollution, their sources, and effects.

Additionally, land use patterns within a given city are also critical determinants of water quality. This is especially the case at the fringes of coastal urban areas where development can result in rapid deterioration of the nearby coastal environment when untreated wastes, erosion and uncontrolled access to biological resources take their toll[26] (Douglas, 1996). In many cities, the occupation of coastal areas by squatters, along with other informal settlement, is also a significant cause of land degradation and water pollution. For example, relatively large segments around the Abu Kir Bay in Alexandria Egypt have been reclaimed for informal settlements in the last 15 years (Hamza, 1989). Uncontrolled waste dumping and sewage effluents have resulted in the near-disappearance of coastal fish traps that once provided abundant harvests[27].

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[26] Zoning, building codes, permits, and economic instruments (e.g., taxes and fees) are common tools used to control densities, to separate land uses, and to directly protect natural areas. See Bernstein (1994) .

[27] Diaz (1992:84) argues that ecologically sensitive areas are impossible to protect from urban encroachment if people and industries are not given alternative land options. Debate continues, however, on the optimal ways to achieve this protection.

Table (2.1):   **Major Classes of Water Pollution**

CLASS OF POLLUTANTS	MAJOR SOURCES	EFFECTS
1. Organic wastes	Human domestic sewage; animal and plant wastes; industrial wastes (e.g. waste from food processing plants, and pulp and paper waste)	Depletion of dissolved oxygen in the water by excessive growth of oxygen-consuming bacterial populations. Death of fish and other aquatic organisms; destruction of plant life; water may develop a foul smell.
2. Inorganic chemicals / minerals • Nitrates and phosphates	Agricultural run-off; sewage and animal wastes; food processing industries; fertilizer plants.	Accelerated eutrophication. Fish are killed, disruption of aquatic ecosystems occurs.
• Sediments	Agricultural run-off; urban storm run-off; construction activities; dredging activities; mining.	Disrupts aquatic ecosystems; reduces shellfish and fish populations; reduces ability of water to assimilate oxygen demanding wastes.
• Metals	Some pesticides; mining; smelting; industrial activities; sewage sludge.	Can accumulate in the tissues of organisms along food chains; toxic to many organisms.
• Acids and alkalies	Industrial activities; acid deposition; ...	Toxic to many organisms; disruption of aquatic ecosystems; acids may increase the solubility of some harmful minerals.
3. Others • Heat	Cooling water from industrial and power generating installations.	Decreases solubility of oxygen in water; can kill some fish; changes composition of aquatic ecosystems.
• Pathogenic micro-organisms	Human sewage and animal wastes	Outbreaks of water-borne diseases such as typhoid, cholera and dysentery, among a plethora of others.
• 3. Organic chemicals	e.g., petrochemicals, pesticides, oil, detergents, , etc....	

Source: Holdgate (1979); Fish (1986); and Miller (1988, 1990).

Further, human activities and their related urban effluents cause nutrient loading or eutrophication of local water (Nixon, 1990; NRC, 1993: 177-79). Nutrients are important plant foods, but excessive amounts can cause radical plant growth, massive algal bloom to name just one, blocking sunlight needed by other organisms. As plants die and decompose, the dissolved oxygen in bottom waters is depleted, a condition that is deadly to fish and other aquatic life (Nixon, 1995). Although it is difficult to isolate the effects of accelerated eutrophication from the impacts of other water pollutants, it has recently been estimated that about one third of the USA's 100,000 medium and large lakes suffer from some degree of accelerated eutrophication. The proportion rises to 85% for those lakes close to large urban areas (Miller, 1988).

2.2.2.2. Urban Sewage and the Natural environments' Conditions:

Urban sewage is a principal source of water pollution, and results from several human activities within cities, both domestic and industrial. Domestic sewage is comprised of a mixture of wastes from laundry, bathing, cooking, as well as human feces and urine. Industrial sewage includes an important amount of organic chemicals, such as oil and polychlorinated biphenyl (PCBs) and heavy metals.

It is a fact that most of the world's sewage is still disposed of, untreated. In developing countries, 90 percent is released without treatment of any kind, usually into a water body, whether a river, a lake or a sea (WHO, 1993). In India, only eight of the country's 3119 towns and cities have full sewerage and sewage treatment facilities, while on the River Ganges 114 urban centers, each with a population of 50,000 or more, discharge untreated sewage directly into the river (WCED, 1987). In Egypt, 35 major factories discharge 129 million cubic meters per year of industrial wastewater into the Nile at Cairo[28]. With such large upstream pollution loads, one might expect the Nile at Cairo to be very highly polluted, and it is (El-Gohary, 1994).

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[28] Cairo is one of the main industrial centers in Egypt: 55-64 % of the Egyptian industries a located there. These include chemical, textile, metal, food, engineering and cement production operations (El-Gohary, 1994; GOE, 1992).

Inexcusably, in many developed countries, only a portion of the sewage receives conventional treatment (Bartone, 1990). Examples include Athens, Barcelona, Venice, Marseilles, San Francisco and Sydney (OECD, 1990). The New York metropolitan area alone produces approximately 6.8 million liters of sewage waste water per day, of which about 16% currently goes untreated before disposal in rivers (Goudie 1990).

Even after conventional wastewater treatment to remove much of the organic material and pathogens, human waste still contains an important amount of nitrogen / nitrates and phosphorus / phosphates - the primary ingredients in fertilizers (Miller, 1992). Raw sewage typically contains 25-85 mg/l of nitrate and 2-15 mg/l of phosphate (Goudie, 1990). It should be noted, for comparison, that it is rare for unpolluted waters to contain more than 20 mg/l of nitrate and 1 mg/l of phosphate (Jeffries and Mills, 1990).

Moreover, conventional treatment results in the accumulation of large quantities of sewage sludge, often containing heavy metals (e.g. cadmium, mercury, and lead) having a variety of toxic effects if it is disposed into urban waters (NRC, 1993: 177). Particularly problematic, mercury in rapidly accumulated in organic tissue; concentrations in fish, for example, may be 10,000 times those observed in the surrounding water (Hellawll, 1988). It has been indisputably proven that mercury causes growth retardation, inhibits reproduction, and alters behavior (Snarski and Oslon, 1982). On the other hand, lead and cadmium[29] are known to possess cardiotoxic properties, leading to cardiac tissue damage and increased blood pressure with all its ensuring medical implications (Nriagu, 1988).

Since contaminant is not a possibility, urban industrial areas are also largely responsible for outputs of organic chemicals such as PCBs to the wider environment[30]. Long term PCB

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[29] Recent research suggests that a safe environmental level of cadmium with respect to aquatic life may well be below 1 microgram per liter (Hellawell, 1988).

[30] The term "polychlorinated biphenyl" is generic, covering a possible 200 chemical compounds depending on the quantity and configuration of chlorine atoms (Moss, 1988). Their stability, cheapness and non-inflammability have resulted in a number of applications in industry (e.g., constituent of paint; printing ink and carbonless paper).

contamination may shortly be proven to have effects on both aquatic ecosystems and human health. According to Park, there is increasing evidence that PCB contamination of the Great Lakes in Canada is causing neurological damage to children, impairing their learning abilities (Park, 1991). PCB's may also be a factor in the otherwise unexplained decline in human fertility rates, in addition to its proven deadly effects on marine life.

In sum, a wide variety of events within cities, arising mainly from human activities, are capable of producing serious stresses on natural environments and their related resources. These stresses affect ecological processes causing deterioration in the resource conditions. Human activities and related stress not only affect the quality of the environment, but in turn, impact on the economic and social conditions in the cities themselves.

Urban areas rely on water resources for drinking water, industrial activities, amenity, and recreation. Yet, human activities within cities pollute these valued resources. Pollution of aquatic resources within the urban context unfailing results in the degradation of water quality and conditions; health problems from eating shellfish or from direct contact with water, lost revenues as a result of depleted and degraded fisheries, and a drop off in tourism.

2.3. RESEARCH PROBLEM AND OBJECTIVES

Human activities have dramatically altered the natural ecosystems upon which civilization fundamentally depends (Turner et al, 1990). Although this feedback has been identified for many years, only recently have urban societies begun to recognize the values carried by their natural ecosystems whilst viewing themselves as integral components of nature (Hough, 1995; Pickett and McDonnell, 1993).

In the competition for valuable natural environments in cities, nature is perceived by different interest groups as an opportunity for exploitation, overuse and, inevitably, pollution. Stresses that arise from human activities not only affect the quality of these

environments, but in turn, impact on economic and social conditions in the city, albeit generally in a manner unintended. Unfortunately, the lack of negative intentions fails to alter the negative effects.

Along with these increasing human demands and continuing destructive development practices, there is a need for viable management strategies of all valued natural environments upon which the satisfaction of many of our needs depend. The challenge is how to manage valued natural environments within the urban fabric, by no means an easy task.

The principles of sustainable urban development allow us to identify several challenges that confront the effective management of these environments. A natural environment within the urban fabric is a dynamic and complex ecosystem (Hough, 1996). However, its full complexity cannot be incorporated into a rigid framework because ecosystems inevitably exhibit highly non-linear dynamics (Kay, 1991). Moreover, similar standards or solutions may not be appropriate in different ecosystems, and, consequently, adaptability and flexibility are two important challenges related to the management of these natural environments.

Yet another serious consideration is that most elements of an ecological process are interconnected (Born and Sonzogni, 1995); this process is a mix of interrelationships and linkages among physical, chemical and biological components. For example, the natural forces that shape shorelines and river systems are constantly in motion and change. Any intervention to control these forces in the absence of thorough understanding of how they work will lead to stressful environmental problems (Botkin, 1990). Accordingly, comprehensiveness becomes another challenge in managing valued natural environments within the urban settings.

However, while considering the broader scope and the array of interrelationships is demanding, there is also a need to filter these comprehensive concerns with a fundamental

bias toward action (Lang, 1986); the purpose for this is to cope with the inherent uncertainty in said natural environments. Strategic[31] dimensions become the key challenge in the management of much natural environments.

The next question that arises addresses the issue of the multiplicity of values, monetary and non-monetary, carried by natural environments within cities; they are, understandably, perceived differently, depending upon the viewer's and user's perspectives. Flor and Librera have examined the case of Mount Apa, a natural environment under stress in Philippines; they note that perceptions regarding its exploitation differ according to the users involved. Diversities of interest and perception have often been and will continue to be a source of conflict between different stakeholders (Flor and Librera, 1993).

Resulting conflicts are likely to occur when users' interests in values are not only not complementary; but are opposed. In "Thomas-Chapais" forest east of Montreal, some users perceived the forest as a natural paradise within the city, one which should be protected for both its ecological and aesthetic values. Others were pointing out security problems such as unsafe access, reported mugging and a need to control the site (Domon, 1996). Conflict of this nature is a fundamental management problem.

While there always exists a degree of conflict in the interests and values of a natural environment the challenge is to develop an interactive approach to management that can coordinate and contribute to building consensus among the users of these natural environments (Lang, 1986). This consensus is necessary to agree upon a common goal (Innes, 1992).

The proposed research examines natural environments within urban settings, environments which carry significant values, both monetary and non-monetary. These environments are subject to stress, and therefore, need to be managed. It is proposed that a proper

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[31] A strategic dimension falls in between the classic comprehensive/ rational approaches heavily criticized in the literature as inapplicable, and the incremental approaches criticized as fragmented and ill-fated (Lindblom, 1979; Lang, 1986).

management strategy must be adaptive to uncertainty, comprehensive and strategic in its nature, as well as collaborative in its process. The major questions that form the basis of this thesis is derived from the debate regarding the concept of collaborative management (CM) as an appropriate strategy to manage valued natural environments within the urban fabric. If it is appropriate then under what conditions can Collaborative Management be effective in achieving progress towards sustainable urban development?

The **goal** of this thesis is to develop a better understanding of the potential of collaborative management and to evaluate the effectiveness of collaborative efforts in managing valued natural environments within the urban fabric. The emphasis is on the political dimension of sustainable urban development, namely the human-human and human-nature relationships. More specifically, the following are the objectives of this research:

- To elaborate a conceptual framework for collaborative management strategies;
- To develop an evaluative framework for collaborative efforts presented in this thesis.

The conceptual framework that follows explores the integrated approach to environmental management and the model of managing the Commons (Chapter 3 and 4). The framework establishes principles from which specific criteria are derived for a proposed evaluative framework (Chapter 5) that is designed to assess the effectiveness of collaborative management. The framework consists of three interrelated dimensions: context-oriented; process-oriented; and institution-oriented. Three different case studies are examined to illustrate the various arguments advanced in the conceptual framework, while exploring the feasibility of this framework (Chapters 7 to 9). On the basis of the thesis' findings and results (Chapter 10), conclusions are reached with respect to the potential role of collaborative management in support of sustainable urban development (Chapter 11). Recommendations for future research are also proposed in the conclusion.

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PART

2

THE CONCEPTUAL FRAMEWORK

While Part One stressed the need to manage valued natural environments within the urban fabric, this portion seeks the appropriate strategy to do so. Part Two consists of four chapters that discuss the approach, model and criteria of effective management of these environments. To this end, chapter 3 focuses on integrated environmental planning and management; chapter 4 examines model of the management of the commons; and chapter 5 discusses effective forms of collaborative management as well as proposing a framework to evaluate such effectiveness. Finally, chapter 6 defines the methodology used in this research.

Chapter III

CONCEPTUALIZING MANAGEMENT

This Chapter details the proposed conceptual framework and how it deals with the management of valued natural environments. It consists of three sections: the first defines a management strategy; the second provides the characteristics of an integrated environmental management framework, one which has theoretical and procedural key elements; and the third emphasizes the need for a management model to complement the proposed integrated framework.

3.1. DEFINING A MANAGEMENT STRATEGY

There exists a bewildering array of possible definitions for the term 'management', varying according to the scientific or professional domain. In general terms, as defined by Grolier, management is a matter of taking continuous responsibility for actions to achieve particular objectives with regard to a particular object (Grolier, 1995). This definition leads to two approaches to the concept of management: object-centered and control-centered. First, the object-centered view of management emphasizes the specific focus or object of management which is considered to be in need of attention[32]. The control-centered approach is allocated certain management powers to one or more particular actor(s); it also stresses decision-making in support of management objectives[33]. Both of

[32] From a thorough understanding of that object, including any tendencies for change, directives for action are expected to flow immediately. Knowledge of that object is certain and leads straight to action. This approach to management is based on Auguste Comte's idea of *savior pour prévoir ainsi que pouvoir*. Advocates of this view are, for example, Patrick Geddes and Thomas Adams. Opponents, such as Mattingly (1994) and Montgomery (1995), argue that the object - centered view of management usually collects far too much information and ends up with too little that is of relevance to stimulate actions. The concern, here, is how to relate knowledge to action. Furthermore, Stren and Bell (1995) argue that the formulation and interpretation of knowledge for practical ends involve decisions and need control for assuming responsibilities. These are the same critiques of "comprehensive" planning (Lang, 1986).

[33] According to Blowers (1993), if no control can be exercised at all, then there seems little point in management. This is the starting point of the control-centered view of management. A total control view is usually coupled with a centralization approach. This implies that the system of management needs to be

these approaches are significant for this dissertation in so far as there is a need to know the focus / object of management and/or the powers of control within the management. Stoner and Freeman add that:

> To manage anything in everyday life is to try to cope with a flux of interacting events and ideas which unrolls through time. The manager tries to improve situations which are seen as problematic - or at least less than perfect - and the job is never done because as the situation evolves new aspects calling for attention emerge, and yesterday's solutions may now be seen as today's problems (Stoner and Freeman, 1990: 18).

Trépanier and Gariépy define management with regard to open spaces as:

> *l'ensemble des processus de planification, de conception, et d'opérationnalisation, d'aménagements de sites ainsi qu'à leur gestion courante* (Trépanier and Gariépy, 1990: 457).

As a result, and for the purposes of this dissertation, management is considered as the exercise of continuing responsibility for actions to achieve sustainable improvements in the conditions of a valuable natural environment within an urban fabric. These actions will differ from time to time and place to place, as particular conditions and contexts determine them. The framework, which includes and shapes such responsibilities and related actions, is a management strategy. Strategy is usually defined as an overall plan (Carew-Reid et al, 1994). However, in our case, a strategy is considered as a process to achieve an ultimate *goal* with specific objectives by changing value systems and institutions through which a set of actions are planned, implemented and managed. The goal is to progress towards achieving sustainable urban development; the objectives are ecological integrity and social equity.

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changed by changing the structure of power relations, and handing the decision-making powers to one party or one group. It usually takes a top-down approach to implement such a view (Bromley, 1992).

Opponents, such as Mitlin and Satterthwaite (1994), argue that the solution advocated by the total control-centered view of management is clearly revolutionary; it might transform a given society and establish a dictatorship. Moreover, it puts many blockages in the way of effective communication among different parties within a society. Another management stream has emerged as an extreme reaction to the total control-centered view; privatization and laissez-faire are advocated by liberal movements as a guarantor of freedom and decentralization (Innes, 1992).

3. 2. AN INTEGRATED ENVIRONMENTAL MANAGEMENT FRAMEWORK

At least three theoretical constructs have enjoyed widespread application in studies related to management of the environment and natural resources: ecological, economic and sociological models. Each model is driven by different assumptions regarding human nature and activity, nature itself and interactions between humans and nature. Each asks different questions, focuses on different goals, and has different views and preferred management strategies (Appendix A).

All three models offer useful insights for a conceptual framework for managing valued natural environments within the urban fabric. Indeed, some elements represent common ground and offer the possibility of discovering areas of 'overlapping consensus' upon which to build a bridging conceptual framework. It is apparent that any discipline-specific model is unlikely by itself to provide the needed framework. For example, there is currently an over dependence on neoclassical economic models, at the expense of others. The issue is not an economics-derived model as such, but models that are inadequate to deal with the broad range of physical, chemical, and biological stresses imposed by human activity on an ecosystem with a limited carrying capacity.

Several authors have attempted to develop appropriate new theoretical constructs of an integrated framework for environmental planning and management[34]. Acknowledging their work, an integrated conceptual framework is developed to span several such constructs. The framework provides the basis for selecting a strategy for the management of valued natural environments within the urban fabric. Some of the major differences between the proposed theoretical integrated construct and the other current models are listed in table (3.1).

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[34] For example, ecological economics (Costanza, 1991), political ecology (Atkinson, 1991), eco-socialism (Pepper, 1993), environmental sociology (D'Antonio et al, 1994), and ecological sociology (Dunlap and Catton, 1994).

Table (3.1):   **Different Paradigms of Environmental Planning and Management**

PARADIGM	ECOLOGICAL	ECONOMIC	SOCIAL	INTEGRATED
Dominant Imperative	Diversity	Growth / Progress	Equity	Sustainability (of the whole system)
Focus in Man-Nature Relationship	Non-human only	Humans only	Humans only	Both human and non-humans (an ecosystem approach)
Main Themes	Survival of species and maximum reproductive success	Exploitation of infinite natural resources to maximize profits / utility.	Equitable use of the resources within the society	Flexible and adaptable approach to reflect the system goals (development; ecological integrity and equity)
Models	Systems approach	Capitalism or Marxism	Socio-political (power) and/or psychological (attitude)	A Commons approach
Responsibility Of Management	Decentralization	Individuals or the State	Individuals and Society	Participation with inter-action and coordination among multiple actors
Management Strategies	Indigenous systems and self-regulation	Privatization (free market) or Nationalization (State control)	Group action	Collaborative management

3.3. CHARACTERISTICS OF THE INTEGRATED FRAMEWORK

A review of the planning literature suggests that considerable groundwork elements are necessary to develop an integrated conceptual framework for environmental planning and

management, and that there is much that can be applied across disciplines (Table 3.2). A gradual evolution towards integrative management has led practitioners and decision-makers to apply the concept to the management of the Fraser River Basin (Dorcey, 1987) and the management of the Great Lakes (Francis, 1993). The following section examines the main characteristics of an integrated management framework, and includes both the theoretical elements of the framework and its procedural characteristics.

Table (3.2):   **Selected Planning Literature on Integrated Approaches to Environmental Planning and Management**

CONTRIBUTION	THEORETICAL ELEMENTS	PROCEDURAL CHARACTERISTICS
Lang (1986)	Requires broad perspectives of resource managers; requires strategic, adaptive, and implementation-focused approach	Involves interaction among management agencies and public involvement to obtain opinions and gain support
Walter (1987)	Social concept: power sharing among those with power and those affected by decisions	Involves framework for making joint decisions and communicating; involves enforcement strategies
Gilbert (1988)	Management that accounts for natural and jurisdictional settings	Involves coordination through interpersonal skills, agreements, education and grassroots movements
Born and Margerum (1993)	Requires participants to take a holistic approach, examine interconnections, identify common goals, and reduce to key actions	Put into practice through coordination among stakeholders with an interest in the system
Grumbine (1994,1991)	A process that views land management from an ecosystem perspective rather than a departmental boundary perspective	Involves goal definition, manager education, public involvement, use of cooperative mechanisms, and integrated legislation
Slocombe (1993)	Inter- or transdisciplinary, systems oriented, adaptive, generates hypotheses, and is future oriented	Involves a process that is cooperative, participatory, and goal oriented, also facilitates information exchange
Mitchell and Hollick (1993)	Holistic and system oriented; requires a broader, long-term perspective	Put into practice through stakeholder involvement and a partnership among agencies, local government, and citizens
Born and Sonzogni (1995)	Holistic, interconnective, common goal oriented and strategic	Put into practice through coordination among stakeholders

Source: Adapted from Margerum (1997: 466).

3.3.1 **Principal Theoretical Elements**

3.3.1.1 A Holistic Approach:

The proposed theoretical construct adopts a more holistic[35] view of the management of natural environments with humans as an important component in the overall system[36]. This construct attempts to manage the natural systems as a whole, acknowledging the interconnections between humans and nature. This implies not only a relationship of interdependence, but also ultimately a dependent one. Such a comprehensive approach differs, on one hand, from conventional economics and sociology in the importance given to humans and, on the other hand, from ecology that focuses on non-human species and ignores humans[37]. However, it traces the fundamental basis of systems' theory from the ecological paradigm (Downs et al, 1991; Cairns and Crawford, 1991).

The integrated framework adopts a systems approach regarding the man-nature relationship. A systems approach opposes the classical idea that the world can be analyzed in separate, independent parts. These parts are seen to be intimately connected, their dynamic relationships depending, in an irreducible way, on the state of the whole system (Muir, 1988: 4).

3.3.1.2 A Goal-oriented approach:

Identifying goals is paramount to develop a common direction for participants in management (Burhs, 1991; Walther, 1987). Mitchell points out that common goals need to be identified so that "participants can consider how they may contribute to them" (Mitchell, 1990: 5). On the other hand, Jarobe notes that while solving problems drives traditional approaches, taking a goal-oriented approach focuses on the system as a whole.

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[35] A holistic approach is defined as embodying the broadest possible range of factors within this view (Mitchell and Hollick, 1993).
[36] People have a special place in the system because they are responsible for understanding their own role in the larger system and for managing it sustainably.

He equates a goal-oriented approach to a medical diagnosis in which problems are used to diagnose the system, but the goal is overall system health (Jarobe, 1986). While goal-oriented approaches focus on the future state of the system, problem-solving approaches react to the existing situation (Burhs, 1991).

Using biological diversity for the ecological, growth for the economic, and equity for the social systems, the ultimate goal of the integrated framework is to achieve sustainability of the whole system. With specific regard to the management of valued natural environment within the urban fabric, the goal is to achieve progress towards sustainable urban development. As presented in chapter one, this involves the integration of environmental concerns with urban development issues, where social equity is considered a necessary precondition. The framework exists, therefore, in an area of overlapping effects amongst ecological, economic and sociological models.

3.3.1.3 A Strategic Approach:

A strategic approach to management is an essential component of the proposed framework (Lang, 1986; Born and Sonzogni, 1995; Margerum, 1996). This allows participants to focus attention, investigate critical issues in-depth and develop a more clearly defined mission. Furthermore, it maximizes the activity of participants since they can more easily identify specific actions and responsible parties while they recognize the comprehensiveness of each situation. Born and Sonzogni suggest that a strategic approach should aim to make an integrated framework for management "adaptive, anticipatory, and more attuned to the realities of the political decision arena" (Born and Sonzogni, 1995: 171). This argument mirrors Lang with regard to integrated planning. He points out that:

> One needed adaptation is to make resource planning strategic. This includes paying explicit attention to the organization and its external environment, focusing analysis early, biasing planning toward implementing action, regarding planning as a management tool, and making it an ongoing process (Lang, 1986: 45).

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[37] People are merely another (albeit seldom studied) species within the ecological paradigm (Knight and Bates, 1995).

Planning and management literature offers several models that focus on the strategic approach, such as strategic planning (Bryson, 1988) and reduced planning (Waller, 1975). The basic theme of the both models is that planners and managers while they should recognize the various dimensions in a comprehensive way, they cannot address all aspects of complex problems since conditions change and too many variables exist. Instead, the focus ought to be on the key aspects of systems that ensure the achievement of system goals. Therefore, two perspectives are emphasized: a broad view that covers the salient parts of the system under analysis, inclusiveness; and a narrower view, reduction, that focuses on key sectors / aspects identified in the broader analysis.

The strategic-reduced approach is also feasible with regard to physical-spatial planning. For example, at the core of sustainable urban development, Jacobs argues for a need for strategic actions. The purpose of these actions is to consider the urban development of a city over the long-term, with short-term development objectives derived from, and consistent with, the long-term sustainability objectives such as inter-generational equity within the urban context (Jacobs, 1991: 53). On the other hand, a strategic, long-term vision for a specific urban area should have as its central aim the enhancement of the quality of life for both present and future residents, whilst also contributing to regional and/or national sustainability[38].

3.3.2. **Procedural Elements**

At this juncture, the focus of discussion is about the nature of the process through which the common goals related to sustainable urban development are achieved. The aim is not to develop a blueprint, but rather a guide that must be supplemented by city-specific contexts and measures.

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[38] Selman (1992) argues that some resources are naturally better managed at the regional or national level (e.g., water supply and disposal are related to natural watershed areas).

3.3.2.1 <u>A Coherent process</u>:

We are concerned with the interrelationships between various system components. In many respects, this reflects the systems approach, since a broad scope requires decision-makers to understand the array of interconnections within that scope. To illustrate this notion, it is recognized that individual pollutants may combine in the environment to produce more severe effects than their individual characteristics might suggest. The case of acid precipitation is but one of numerous examples that mirror these environmental interconnections (Selman, 1992).

Problems that originate within the city can be transferred to surrounding areas, for example urban industrial air pollution, whilst urban environmental problems may reflect activities outside the city, such as water supply contamination from agricultural and/ or rural industries. The point is that human activities can exercise profound direct and indirect impacts on the environment of surrounding areas at regional, national and even global scales.

A coherent process also requires coordination. Salwasser argues that managing an ecosystem is 'operationalized' by coordinating the actions of different agencies (Salwasser, 1991). Many authors, such as Bass and associates, however, point out that the emphasis on agencies is too limited and the process requires participation by a broader group of stakeholders in order to be a more people-sensitive process (Bass et al, 1995).

3.3.2.2 <u>A Participatory process</u>:

Stakeholders' participation in resource management and decision-making is a key requirement for an integrated framework of environmental planning and management (Lang, 1986; Mitchell and Hollick, 1993). Such a process will include agencies, local government, non-governmental organizations, resource users and other stakeholders (Grumbine, 1991). Indeed, a concerted and participatory process that involves all agents

of change will be necessary to meet the challenge of achieving sustainable urban development - "what human communities do to themselves" (Adams, 1990:199). Planning and management are likely to be "with" and "by" the people not "for" them (Jacobs, 1987; Stren, 1992).

Through participation[39], stakeholders better understand their roles and responsibilities within the process. Negotiation and dialogue always facilitate arriving at a consensus on the common goals of sustainable urban development among different parties. Actors do feel increased responsibility for achieving these goals and mobilizing the required resources, both human and financial. Clearly, it is also imperative to involve the wider public, since they can be an important source of data and information on the objectives (Lang, 1986; Margerum and Born, 1995). Elkin and associates add that greater community involvement provides an additional source of knowledge of environmental conditions and improvement needs (Elkin et al, 1991). Maclaren and associates go one step further and suggest that maximum use of local knowledge is always desirable in guiding the local urban development process (Maclaren et al, 1995).

A participatory process has the added benefit of fostering a sense of community responsibility to improve and maintain environmental quality. In general terms, it enhances the sense of stewardship for the local environment (Jacobs, 1991). Without public participation, there is likely to be little sensibility to the specifics of place, and little innovation emerging in support of sustainable urban development. Interaction in the form of stakeholder coordination and public participation is, therefore, the key to moving an integrated conceptual framework into operation. However, participation and interaction in an ongoing process require accompanying and compatible institutional change. Institutions become the medium through which the strategy is undertaken, goals are achieved, and the process is implemented.

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[39] Participation should always be built on the "knowledge of people, their cultural values, their creativity and their potential for innovation" (Ekins, 1992:208).

3.4. SYNTHESIS

The proposed integrated conceptual framework embodies a holistic, goal-oriented, and strategic approach to environmental planning and management. While the holistic approach is borrowed from the ecological paradigm, the strategic approach reflects some elements of both the economic and socio-political models. The goal-oriented approach, with its ultimate focus on sustainable urban development, offers some objectives that span models of all three systems.

The practice of such an integrated framework requires an interrelated and participatory process. The comprehensive nature of the integrated framework implies an interrelated process in which a much wider array of stakeholders, including the public, participate and interact. Participation and interaction among stakeholders with the general public is a central component of the integrated framework; both are important in achieving progress toward social equity and ecological integrity. Achieving these goals will depend on coordinated and organized new organizational and institutional structures.

The proposed integrated conceptual framework and its related characteristics (figure 3.1) have several important implications in identifying the focus of management within this dissertation. Based on the inherent characteristics, the object of management becomes the whole system, one that includes both the natural environment and related human activities. Following the logic of the systems approach, any analysis that speaks only to nature or to society is impossible to sustain. Given the current period of urbanization, where many relationships between society and natural environments within some cities are in critical situations, management strategies need to respond to social, economic and ecological components of these crises. Such strategies should be elaborated based on an understanding of both the ecosystem and its users, as well as the manner in which they interact.

Human activities remain a significant cause of stress on valuable natural environments within the urban fabric. It is important to manage these activities, how they are valued, how they draw from the ecosystem, and in turn impose stress. As a result, the treatment directed at human activities is critical in managing valued natural environments within the urban fabric. As Hardin has reasoned with respect to the commons, "it is not the commons that need managing, but the people who exploit them" (Hardin, 1991:179).

Consequently, this dissertation emphasizes management strategies as human creations, the purpose of which is to manage people in their interaction with a natural environment and its related resources, while understanding the ecosystem as a whole[40]. More attention must be paid to the planning aspects of public behavior, public participation, stakeholder involvement, communication, conflict resolution and inter-organizational coordination. All of which are well-researched concepts in social, political and planning studies.

Planning scholars have recognized for years that public involvement is an integral part of planning practice (Bass et al, 1995; Parenteau, 1988; Glass, 1979; Arnstein, 1969). Many planners emphasize that the profession is, ultimately, an interactive discipline that depends on effective communication and conflict resolution (Innes, 1995; Alexander, 1993). Researchers in planning and other professional fields also offer insights into the power derived from the use of information (Forester, 1989), approaches to achieving consensus (Innes et al, 1994; Innes and Booher, 1997), and techniques for analyzing and resolving conflicts (Crowfoot and Wondolleck, 1990).

In conclusion, the main value of highlighting the differences in approach is to draw attention to parallel possibilities in addressing the management of valued natural environments within the urban fabric. The attempt is to develop an integrated conceptual framework for environmental planning and management. This seems particularly important

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[40] Towards these ends, institutional arrangements are continually established (and redefined) in order to determine (and to modify) the scope and nature of the regime over these environments and related resources (Ostrom, 1990).

to planners, as they do not always have all the tools necessary to move towards sustainable urban development. The next chapter discusses a model of management that amalgamates the best contributions from available literature, research findings and lessons from practice to address the management of valued natural environments within the urban fabric.

GOAL-ORIENTED

PARTICIPATORY

COHERENT

HOLISTIC

STRATEGIC

☐ Theoretical Elements   ⪜ Procedural Elements
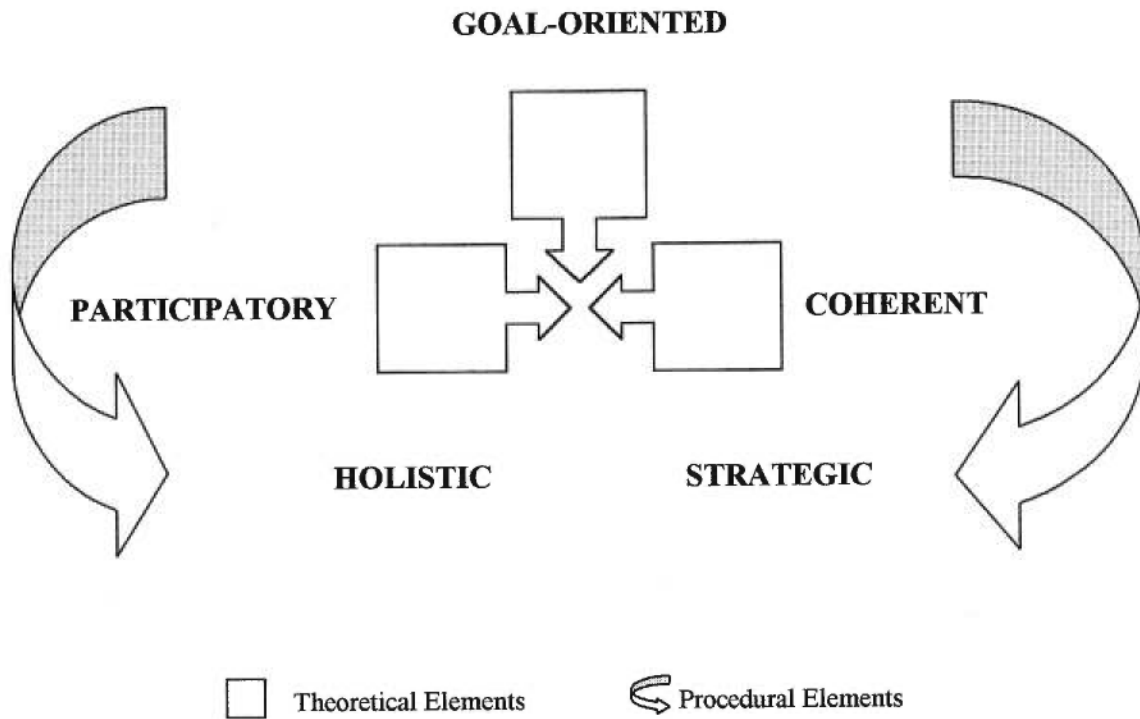
Figure 3.1. **Characteristics of the Integrated Framework**

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Chapter IV

THE COMMONS' MODEL OF MANAGEMENT

This chapter consists of three sections. The first provides a review of Hardin's tragedy of the commons; the second examines two management strategies proposed by Hardin, namely privatization and centralization; and the third offers an alternative to the two proposed strategies.

4.1. HARDIN'S MODEL FOR MANAGING THE COMMONS

While economists broadly understand the commons[41] to mean free and unregulated access to resources, environmentalists and social scientists emphasize that the commons are shared by a wide array of social groups (Jacobs, 1989). Ostrom characterizes the commons as a natural or man-made system that is sufficiently large as to make it costly, but not impossible, to exclude potential beneficiaries from obtaining benefits from its use (Ostrom, 1990:30). For example, all users benefit from maintenance performed on an irrigation canal or a bridge, whether or not they contribute.

4.1.1. The Tragedy of the Commons

The "Tragedy of the Commons", a 1968 essay by the ecologist Garrett Hardin, was an influential part of the modern environmental movement[42]. This parable of a village's public pasture, the commons, open free of charge to everyone's cattle, meets its demise because

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[41] Some authors, such as Bromley (1991) and Ostrom (1990; 1994) often use the term "common-pool resources" instead of commons.

no villager has a personal incentive to restrict the size of his herd, the herds expand, and eventually overgrazing destroys the commons (Hardin, 1968).

According to the theory advanced by Hardin, all resources owned in common, air, oceans, fish, grasslands, and the like, are or eventually will be overexploited (O'Riordan and Turner, 1983). Hardin's theory is based on the belief that when resources, for example, clean water or trees, are free or open to everyone, costs arising from their use and abuse can be passed on to others. The rational individual has an incentive to take much as possible before someone else does, therefore, no one is motivated to take responsibility for the resources, and, since they belong to everyone, no one protects them (Blair, 1996). This is precisely the idea espoused in the tragedy of the commons.

4.1.2. **Hardin's Prescriptions for Managing the Commons**

Hardin held that two ways exist to avert the Tragedy of the Commons: privatization and centralized management. The first is to convert the commons to private property in order to have a personal incentive not to destroy it. Many supporters, including Watson (1989) substantiate the argument that privatization is an appropriate solution to the tragedy of the commons. An alternative would be a centralized management of the commons, to convert the commons to a public property or State regime, in order to ensure a sustainable use of its resources (Feeny et al, 1990). There is a fundamental belief that people in the commons have an incentive to ignore the social impact of private behavior. This belief provides the key to generating a demand for governmental intervention (Hardin and Baden, 1977; Hardin, 1968; 1991). As in Hardin's example, making rules would limit the number of cattle on the commons and, as a consequense, the centralized management approach would be an obvious solution to some complex management problems of the commons (O'Riordan and Turner, 1983).

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[42] For a comprehensive introduction to environmentalism and the environmental movements, see Pepper (1996); O'Riordan (1989); O'Riordan and Turner (1983); and Atkinson (1991).

Hardin's model has generated a good deal of debate. It is challenged by Berkes on two accounts. According to Berkes, "Hardin's model makes the critical assumption that common-property resources are really open-access, which we know not to be true in the case of the medieval English grazing commons that Hardin used. The model makes a second critical assumption that resource-users are individualistic and unable to cooperate towards the greater community interest. Thus, they eventually become both villains and victims of resource depletion" (Berkes, 1989:8). Hardin's model is also criticized in the case of privatization for putting self-interest above community interest as it restricts access and excludes non-owners from the common environment (Ostrom et al, 1994).

Berkes notes that indigenous cultures have historically applied a system of traditional community property rights to the management of common property resources; they are not open-access resources for the taking (Berkes, 1989). As well, the assumption of individual utility maximization does not always hold true where individuals contribute towards a greater community interest. Feeny and associates have also surveyed the recent evidence, concluding that private property can lead to disasters in some cases, and in others, state control simply opens the door to over-use by local people (Feeny et al, 1990).

4.1.3. **Similarities with Olson's Model for Collective Action**

Many of the questions related to urban movements arise from the theory of collective action. Mancur Olson developed this theory[43] in his *Logic of Collective Action*. Olson (1965) challenged the grand optimism expressed in *Group Theory*: that individuals with common interests would voluntary act so as to try to further those interests (Bentley, 1949; Truman, 1958). The rationale behind Olson's argument rests largely on the premise that one who cannot be excluded from obtaining the benefits of a collective good once the good is produced has little incentive to contribute voluntarily to the provision of that good (Ostrom, 1990).

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[43] How could a group of individuals come out with a common interest? How significant this common interest should be to spark a collective action? And what are the conditions that favor or hinder a collective action by individuals? The theory of collective action attempts to answer such questions.

This logic of collective action is a concept closely related to Hardin's tragedy of the commons; both are significant models. However, there is a danger when these two models are used metaphorically as the foundation for intervention strategies to manage a resource. Olson's model, like Hardin's, advocates that individuals are helpless and always need to be organized by external authorities[44], whether the State or the market. This implies that those using a resource will not cooperate so as to achieve collective benefits. Olson argued that:

> Unless there is coercion or some other special device to make individuals act in their common interest, rational, self-interested individuals will not act to achieve their common or group interest (Olson, 1965: 2).

In addition, both models hold that the individual's incentive is a key element when attempting to initiate collective action and achieve collective benefits. Indeed, there is an assumption that individuals are perceived as being trapped in a static situation, unable to change the rules affecting their incentives.

Further, at the heart of each of these models is the so-termed free-rider problem. Whenever one person cannot be excluded from the benefits that others provide, each person is motivated not to contribute to the joint effort, but to free ride on the efforts of others. If all participants choose the free ride, the collective benefit will not be produced (Ostrom, 1990).

4.1.4. Critiques of Olson's Model

Several studies have challenged the assumption that individuals cannot organize themselves and always need to be organized by external authorities to manage their resources (Berkes, 1989; Ostrom et al, 1993). Instead of being wrong, a collective action

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[44] Hardin recommends 'mutual coercion, mutually agreed upon' to solve the problem of managing the commons.

theory is seen as a special model that utilizes extreme assumptions rather than general theories. Ostrom criticizes the model by arguing that it can successfully predict strategies and outcomes in fixed situations approximating the initial conditions of the model, but it cannot predict outcomes outside that range (Ostrom, 1990).

Limitations of the collective action model, as with the tragedy of the commons model, derive from a variety of dimensions. The collective action model makes many assumptions equivalent to setting parameters; the amount of information available to users, for example, is equal to a constant or perhaps no information. Ostrom argues that apparently, "setting a variable equal to a constant usually narrows, rather than broadens, the range of applicability of a model" (Ostrom, 1990: 184).

Second, this model demonstrates what individuals will do when they are in a situation they cannot change; the model is unable to explain situations where the actors have autonomy to craft their own arrangements (Ostrom, 1995).

Olson's model is also difficult to interpret. For example, Ostrom points out that:

> What [strategy] should one draw, for example, from knowing that the size of a group increases the difficulty of organizing collective action? Should one simply presume that small groups will take care of themselves, and the external authorities will have to govern and manage the common-property resources used by larger groups? (Ostrom, 1990: 189).

Similar to Hardin's tragedy of the commons, Olson's logic of collective action is a model of significant importance. It is necessary, therefore, to examine the suitability of the two management strategies advocated by these models, privatization and centralization, before applying them to a valued natural environment within the urban fabric.

4.2. HARDIN'S TWO PROPOSED STRATEGIES

Privatization and Centralization are two strategies applied to two concerns: managing the commons and managing the urban context. In the search for a strategy for managing a "natural environment" within "the urban fabric", both concerns are significant.

4.2.1. **Privatization**

Privatization has been widely advocated as a strategy to manage deteriorated commons during the last two decades (Townsend and Wilson, 1987; World Bank, 1994; Smith, 1996). In the USA, numerous voices have urged that federal forests, grazing lands and the like be turned over to the private sector (Echeverria and Eby, 1995). Small-scale privatization of commons has also occurred successfully in many areas of South Asia (Blair, 1996). The argument is that owners would take care to maintain their resources in order to assure their own continued use, whereas other sectors or authorities have no such incentive (Bromley, 1991; Ostrom, 1990; Blair, 1996). Furthermore, privatization provides a regime in which a single owner can decide what shall be done, whereas in other regimes the decision-making process is much more complex. Consequently, privatization is regarded as the most efficient institutional arrangement for resource management and environmental protection (Hardin, 1991).

Opponents point out that privatization is no guarantee of improvement, and may make specific situations worse. With respect to land, Bromley argues that "there is no clear evidence that privatization reduces land exploitation since privatization will simply mean exclusion and the shifting of population elsewhere to other common property areas. [Therefore], the conclusion that common property lands must be privatized in order to save them should be challenged" (Bromley, 1991: 29).

Privatization is also criticized for creating exclusive rights for one group. This leads, necessarily, to the exclusion of some other groups (Grima and Berkes, 1989). As some

anthropologists have asserted, there are not only "tragedies of the commons" but also "tragedies of the commoners", when inequities and losses occur with privatization of resources (McCay and Acheson, 1987). This situation arises when powerful interest groups usurp the commons rights enjoyed by less intensive or politically less powerful users of a resource.

Over several years and numerous publications, Jodha has studied a variety of cases in Western and Southern India where privatizing the commons was employed as a welfare scheme to aid the poor. He found that the objective of helping the poor was not achieved, and privatized, grazed land has deteriorated into even worse condition than when it was overgrazed prior to privatization. In fact, the greater share of land went to non-poor beneficiaries, and those among the poor who did receive land often found themselves unable to manage or even to retain their new assets. On the other hand, the land itself tended to suffer as its new owners from the élite turned what had been essentially marginal land from natural cover into cropped areas[45] (Jodha, 1986; 1990; 1992).

There is, as well, a limit to the concern of owners to maintain their privatized common-property. Many authors, such as Berkes (1989), Bromley (1991), and Blair (1996), opposing Hardin's privatization strategy for managing the commons, argue that these owners would not put a higher value on it than the market would offer for its produce: market rationality will prevail over environmental rationality. Ostrom points out that:

> Privatization can mean assigning the exclusive right to harvest from a resource system to a single individual or firm.... Privatizing [a common resource] need not have the same positive results as privatizing an airline (Ostrom, 1990: 22).

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[45] Privately owned land is the main source of wealth and power in most societies. According to Hardie (1991: 137-38) anyone who can grab part of the commons for him/her self has achieved a short cut to these advantages.

4.2.2. **Centralized Management**

Hardin's second strategy for managing the commons is centralization. According to O'Riordan and Turner (1983: 280), misuse of the commons requires some form of governmental intervention, because, almost by definition, individuals using the commons cannot comprehend the adverse nature of the sum total of their usage (Bish, 1977). State intervention might occur, for example, through a complex arrangement of regulation and legal frameworks ranging from safety standards to restrictions on public access.

To implement such a complex arrangement, governmental action is required as a coordinating authority. As characterized, a common pool resource is a resource for which there are multiple owners, or a number of people who have rights to use the resource, and where one or a set of users can have adverse effects upon the interests of other users. In the situation where there is no agency with the power to coordinate or to ration use, action which is individually rational can be collectively disastrous. This again is the central point of the "tragedy of the commons". Thus, in the absence of a coordinating arrangement based on some rule, the resource will be unnecessarily depleted.

Opponents to this argument point out that the record of state management has been very disappointing. Bromley argues that "the appearance of management by the establishment of [coordinating] governmental agencies …has led to continued degradation of resources under the management of government agencies" (Bromley, 1991:149). Others, such as Korten, argue that it would be possible to accomplish the same ends of coordination through voluntary agreements among the interested parties[46] (Korten, 1987).

The disastrous effects of nationalizing formerly common resources have been well documented. For example, problems arose in the case of forests in Thailand (Feeny, 1988), Nepal (Arnold and Campbell, 1986), Niger (Thomson et al, 1986), and India

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[46] Several analysts argue that State control and its failure have simply weakened local customary regimes. See, for example, Berkes (1989) and Jacobs (1987).

(Gadgil and Iyer, 1989; Gadgil and Guha, 1994). Similar problems occurred with regard to inshore fisheries when governments presumed they had exclusive jurisdiction over all coastal waters (Cruz, 1986; Pinkerton, 1989; Alegret, 1995).

Centralized State management means that some political officials and bureaucrats, rather than private owners, will assume responsibility and decide by whom, how and how much a resource is used. When a bureaucrat controls a resource, the question becomes what incentive does the official have[47]? And what benefits will he/she receive from alternative allocations of the resource that will influence or determine his/her decisions? It is also important to ask whether he/she has the required skills and knowledge to manage?

Any form of governmental intervention requires the exercise of Hardin's dictum of mutual coercion[48], mutually agreed upon, because, without public acceptance of authority, regulation cannot be enforced. If there is an expected tragedy, then the users of the commons have to accept that the authority thereby established is both trustworthy and competent to do the management job (Blair, 1996). In addition, incentives for staffing levels should be sufficient to administer and manage that domain which the government has taken into itself (Ostrom et al, 1993). However, many states have recently demonstrated a talent at failing miserably to do so. Government, generally, is eyed with suspicion in many countries; officials are prone to corruption, and their technical competence is questioned. (Ostrom, 1990; Mackintosh, 1992)

In Nepal, there is a forest previously held as a common property. The state recently took control of its management. Bromley and Chapagain studied this poorly managed forest, suggesting that the state must not decree what it cannot enforce (Bromley and Chapagain, 1984:868-73). This means that nationalizing the forest in name, yet leaving it unmanaged is probably worse than having done nothing.

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[47] The individuals in the public sector as well as those in the private sector appear to respond to immediate and direct incentives (Ostrom et al, 1993).

[48] Hardin's prescription for instituting control is "mutual coercion, mutually agreed upon by the majority of the people affected" (Hardin, 1968: 27).

Thus, it would seem that the prospects are very dim for managing the commons using a centralized approach, the administrative arm of the state, in which Hardin places his hope. Unless the regulatory and state management process is fully accountable and open, the quality of the environment is determined by bureaucrats and administrators who may not necessarily be sensitive to specific human / users' requirements in particular circumstances. The record to date is not encouraging.

4.2.3. **A Parallel Concern**

The two management patterns advocated by Hardin and Olson, namely privatization and centralized state control, can also be viewed in an urban setting. These patterns take place within the context of a wider debate about the role of the state and the place of the individual that is private. The debate has been amply discussed by several authors (Higgott, 1983; Evans et al, 1985; Brett, 1988; Low, 1991; Devas and Rakodi, 1993). Two questions, relevant to our discussion, are raised within this debate. The first is whether governments should, in principle, seek to intervene in the process of urban management. The second is whether governments have the skill and ability to intervene in this process in a way that succeeds in producing a better outcome. However, the fundamental question in this section remains whether privatization or centralization has worked successfully as a management strategy within the urban context.

Following the industrial revolution, cities were, essentially, in the private domain (Eisner et al, 1993). The economic, political, and social objectives of the late nineteenth century were defined to large extent by the interests of some individuals from the upper classes (Knox, 1994); this situation occurred in the absence of any collective action by the mass of the urban population. By the early 20th century, it became increasingly obvious that privatization within cities has limitations. Whilst the private mechanism offers considerable benefits as a system of urban management, it has not produced a socially desirable outcome, similar to the case of the commons. This in turn led to government intervention in the urban context (Devas and Rakodi, 1993). There are a number of reasons for this.

First, in a private domain, power rests in the hands of a few, even single, individuals (Blowers, 1982; Payne and Cadman, 1990). For example, a limited number of owners are able to exert considerable power over urban lands and/or the provision of urban services. In such cases, it is normally considered unacceptable to allow an unaccountable private sector to control such matters or services, unless there is an adequate regulatory framework to protect public interest (Mattingly, 1995; Low, 1991).

A second reason, related to the first, is the uneven distribution of income and wealth (Stren and Bell, 1995; Lipton, 1977). Within most cities, wealth is unequally distributed, not only in terms of the private ownership of land, capital and power, but also in terms of the distribution of human skills and capacities. Thus, the role of governments has gradually become to protect the poor from being further disadvantaged and to redress at least some of the inequalities in income and wealth within cities (Mitlin et al, 1996; Cornia et al, 1987).

A further reason is the existence of externalities, as in the case of the commons. These externalities may be negative - one person's activities may adversely affect another - or positive, the benefits to society as a whole of a particular activity may exceed the private benefits (Devas and Rakodi, 1993). According to Stren and Bell, the nature of cities, with their increasingly high population densities, means that negative externalities are likely to be a significant problem (Stren and Bell, 1995). Disposals of waste and atmospheric pollution from industries are obvious examples. On the other hand, positive externalities are also common. When combined with the difficulty of excluding non-payers, positive externalities imply that certain facilities which are vital to society as a whole are unlikely to be privately profitable (Devas, 1993). As a result, such facilities will not be provided by the private domain, at least not on the scale or in the manner requested by society. Obvious examples are roads, street lighting or parks. Because of externalities, government intervention is generally considered to be necessary, whether in the form of regulatory controls over the private sector/domain or direct public provision of certain services.

For all these reasons, it is clear that the private domain alone cannot produce an outcome which is satisfactory to society as a whole. Thus, the question is not whether the state should intervene, but rather to what extent it should intervene in order to mitigate the actions of the private domain. However, the relatively modest success rate of the state in achieving superior outcomes through regulation and control have been noted by numerous authors (Stren, 1992). State interventions have produced unintended and often undesirable results; the emphasis here is on accountability, efficiency, and the effectiveness of the public sector[49]. Due to the scarcity of resources, incentives, capacity and skills within the public sector, the state has become unaccountable and unresponsive to the needs of the people within urban areas (Mackintosh, 1992: 61-89).

Attempts to overcome these problems of failed state-control have made apparent the need for reforms which advocate a way back to non-state solutions, namely privatization (Mackintosh, 1992). The re-recognition that the form of cities is determined largely by the decisions of individuals, and that the private sector will continue to play a dominant role in city development have favored such an approach of re-privatization (Devas and Rakodi, 1993).

There are several reasons for the re-emergence of privatization in cities. For example, the role of the private sector has re-emerged in the area of service provision. Over the years, the state has tended to displace private sector provision of services, but poor management and corruption have contributed to reducing the quality of the services provided by the public sector. In the last fifteen years, there has been a strong trend towards the re-privatization of state-owned industries and the contracting-out of public services, water, electricity, waste, and the like, within the urban context to public sector suppliers[50] (Roth, 1987).

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[49] Effectiveness within public bureaucracy requires certain conditions in its environment: that there is sufficient stability for the rules and procedures to have some durability; adequate supply to at least hold the promise of meeting demand; and sufficient social homogeneity to suit standardized solutions (Batley, 1993: 198).

However, the dangers of the private sector approach remain real; there is an important need to ensure that necessary curbs exist to ensure its social and environmental accountability. Given these problems, privatization will still require some framework of state control or regulation to ensure that the public interest is served. To date, limited successful stories can be found (Mattingly, 1995).

4.2.4. Searching for an Alternative

Managing the commons or the urban context is by no means an easy task. Of the two strategies advocated by Hardin as prescriptions for avoiding the tragedy of the commons and by Olson in his theory of collective action, neither privatization nor centralization provide the best management outcomes.

Privatization, which seems to be the obvious solution in the 1980s and 1990s, where the market economy paradigm persists[51], can lead to increased degradation for the environment and the poor. Privatization is just one aspect of managing the commons or the urban context.

Management by a centralized authority, the state, is but another aspect of control. However, the problem lies with the capacity and accountability of governmental authorities responsible for management.

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[50] Other models of privatization are being adopted, such as joint ventures, public/private co-operation agreements and the re-establishment of public sector agencies as commercial undertakings (World Bank, 1994).

[51] The roots of privatization can be found in the market-oriented societies of Western industrial nations, which is itself a product of the Industrial Revolution according to Bromley (1985: 12-15). It is, therefore, this paradigm that starts with the assumption that all valuable resources are individually owned and exchangeable in small increments in well functioning markets. Then, these conditions will assure an efficiently operating system (Keynes, in Ostrom, 1995).
Grima and Berkes (1989:37) challenged these assumptions. They argue that individual self-interest is seen as supreme in many Western societies. In many other societies, however, as well as with certain groups in Western cultures, the individual is not the dominant locus of choice, the community instead is the relevant, decision-making unit. For example, this is true among North American Native peoples who

The superiority of one type of management over another is difficult to determine. Grima and Berkes noted that the preference of an analyst often reflects his or her ideological stance, rather than the flow of pure reason (Berkes, 1989: 42). Bish argues that:

> ...distinguishing between private and public management strategy is usually meaningless in determining how effectively a resource will be used or protected. Instead, one must look at the specific incentives either the private owner or the public manager faces in allocating the resources he / she controls (Bish, 1977:226).

Further, privatization and centralization frequently are intermeshed and depend on one another, rather than existing in isolated worlds (Ostrom, 1990: 15). It is no longer true that a balance between public and private exists. An alternative strategy of management is necessary (Nerfin, 1987).

4.3. COMMON-PROPERTY MANAGEMENT REGIMES

The current debate over how best to address the management challenge has often been posed as a choice between calling upon governments to do more or, conversely, limiting government through privatization and allowing market solutions to operate. Missing from this debate has been a third avenue organizing a manner to promote collaborative management.

That which seems to work most effectively in managing the commons is user-groups or common-property management regimes. This model refers to an urban community or a user-group that can vary in nature, size and internal structure across a broad spectrum, but is a social unit with definite membership and defined boundaries. The group has certain common interests, and has at least some interaction among members and these possess at least some common cultural norms (Bromley, 1991; McCay and Acheson, 1988).

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never had, and under the present reservation system still do not have, individual private ownership of resources or privately management commons (Berkes, 1989: 70-88).

Government may also recognize user-groups who may even be assisted by government or a donor agency, but their foundation and legitimacy derives in each case from the base of users[52].

There is considerable controversy as to whether a user-group can organize and regulate itself to manage a common-property resource. In a recent study, Feeny and associates argue that it is entirely possible for user-groups to regulate and manage certain kinds of common property (Feeny et al, 1990), and in some cases user groups have displayed admirable track records in managing the commons.

4.3.1. Selected Cases of Common-Property Management Regimes

There exist many examples of viable common-property management regimes, some of which have endured for centuries[53]. Examples can be found in cases of irrigation, forestry, and fisheries, among others. This is especially true in areas where local people live in close relationships with the natural environment and depend upon it for their survival and well being. Consequently, local people have developed a variety of institutional arrangements to cope with the management of the commons.

For the purpose of comparison it must be noted that alone, state-sponsored irrigation systems generally have a very poor record (Goldensohn et al, 1994). Government agencies, acting as sole governors, have often failed to provide sufficient resources to manipulate water flows down to the level of farmer's fields, maintain every canal or settle every conflict (Cruz, 1989). Through user-groups, the farmer's participation becomes essential for an effective irrigation system; farmers accept a set of rules for collaborative

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[52] Ostrom (1990) offers an analysis of this concept in his studies of irrigation groups in a number of countries. With regard to the commons, Ostrom (1990) prefers to call these groups "appropriators", which refer to all individuals who actually withdraw or somehow utilize the common, regardless of the source of their legal claim to do so. Indeed, some actual appropriators may have no legal claim (e.g., squatters).

[53] Bromley (1991) offers a wide range of examples. Pradhan (1984) also offers a series of case studies on water management systems in Nepal going back 200 years.

water management. These rules usually define who owns the water and water facilities, and who has the responsibility for operating and maintaining the system.

Through their groups, farmers participate in three sets of related activities (Yoder in Gibbs and Bromley, 1989). The first set includes system-development activities, design, construction, operation and maintenance; the second includes water-management activities, water acquisition, allocation, distribution and drainage; and the third includes organizational activities, decision-making, mobilizing resources, communication and conflict resolution. When all three sets of activities intersect, farmers' associations perform well collectively. For example, users must be able to make decisions about system design as it relates to water acquisition or to mobilize resources for the operation of water distribution; managing the common-water resource may break down if one or more aspect is neglected (Easter and Palanisami, 1986).

Irrigation in some parts of Upper Egypt (Asyut and Sohag) provides a good example to demonstrate collective water management (Hopkins, 1987; 1991). Farmers around a water lifting point known as the "Saqiya ring", group themselves in an association and cooperate to dredge or maintain the lowest level government canal. The amount of water used, in principle, is usually calculated collectively on the basis of the amount of land under cultivation (Mehanna et al, 1984).

A further example serves to cement the viability of such collaboration. The key factor of common-property management regimes in fisheries[54] is the limitation of access to the resource (Scudder and Conelly, 1985). Without access limitation, a productive fishery will attract enough fishermen to render it unproductive (Grima and Berkes, 1989). CPM regimes in fisheries are well-developed in Japan and some of the Pacific countries (Ruddle, 1989; Cruz, 1989; Pomeroy, 1994). These societies have developed autonomous management regimes, whereby the right to fish in a particular area may be controlled by a

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[54] In many countries, fisheries are defined in law as common-property but only in the sense that the resource belongs to the public while the seas remain an open-access resource (Pomeroy, 1994).

family, community or group of communities (Scudder and Conelly, 1985). For example, through a rights system and membership in local cooperative associations, Japanese coastal fishermen have legally guaranteed equitable access to and ownership of the living aquatic resources in their tenured waters (Ruddle, 1989:168). In other societies, there are also fishing leaders to oversee harvesting activities, and to enforce often elaborate rules and prohibitions (Pomeroy, 1994). In many cases, this management system does maintain high sustainable yields and all the benefits accrue directly to them (Pinkerton, 1989).

A third resource provides yet another illustrative example. Forests have been managed collectively for generations through traditional management regimes in many places throughout the world (Fisher, 1995). This point demonstrated by the wide acceptance of the slogan that local people are the best guardians of forest resources (Reid, 1995)[55]. Communities have established rules for cutting firewood and forage, and for the harvest of fruits, timber, fibers and other products (Scott, 1996; Baines, 1989; Gadgil and Iyer, 1989). Rules have been developed within some local communities to specify who has use rights, what form the rights take and what duties are expected from individuals with respect to use rates and maintenance of the forest (Poffenberger, 1996; Lynch and Talbott, 1995). In Uganda and Sudan, rules have been innovated by local people for the use of certain products, such as gum Arabic (Scott, 1996). Collective rights to forests may specify the right to plant, use, and dispose of trees, use forest products, the ground under or between trees or to take livestock into the forest (Gilmour and Fisher, 1991; McNeely, 1994).

4.3.2. Discussion

A belief has arisen that the commons are subject to stresses, for example from free rider activities, and are bound to be degraded in a never-ending repeat of the tragedy of the commons. The cases of irrigation, fisheries, and forestry, however, reflect significant

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[55] However, Reid (1995: 233) states that "this may be true if local people are able to protect the forest resources against other certain other social conditions are met".

common-property management systems which have evolved to meet the direct needs of people in uncertain environments. The purpose of presenting these cases is to determine the feasibility of collaborative strategies in managing the commons. The attempt is to characterize some principles of a successful common-property management regime which would be relevant to the management of a valuable natural environment within the urban fabric, the goal.

In the case of irrigation, access by both outsiders and insiders is relatively easy to control. In other words, the geographical boundaries of a command area exclude outsiders from a local irrigation group, one must have land immediately adjacent to the water source to use the water, and it is relatively easy to control the access of insiders, group members, to the water. Further, users fully assume the management responsibilities of their irrigation system. For example, they can immediately appreciate the connection between contributing their own labor and keeping the system viable. Finally, rules set by user-groups are usually respected because management group members can enforce sanctions against free riders; nocturnal channel diversion is one solution. It is easy to determine who is contributing his share towards maintenance and to cut off water to the fields of anyone who is not. However, a few failures occur in some cases, such as in the case of San Bernardino, California, where groundwater pumpers are still facing overdraft conditions following the creation their own common-regime (Ostrom, 1990: 146-149).

With fisheries, access is less easily controlled than in the case of irrigation. Users see little between any personal contribution they might make and benefits they might receive, therefore, fewer responsibilities are assumed by the users without more local centralized control, as in the case of Japan where control is given to the family of a leader. As a result, any attempt to enforce rules for limiting harvesting activities would be less easily managed than with irrigation, but still feasible. The case of the inshore fishery at Alanya, Turkey, described by Berkes (1986), provides an example of a self-managed common-property regime in which the rules have been designed and modified by the participants

themselves, and also are monitored and enforced by them[56]. However, some failures may also be noted, such as in the case of Bodrum and the Bay of Izmir, Turkey, where fishers have failed to established effective rule systems that can be enforced (Ostrom, 1990: 144-146).

Forestry lies somewhere in the middle. Access to a forest cannot be controlled as easily as an irrigation system, but it is much simpler to keep outsiders away from a forest, where they can be seen or more likely heard cutting anything, than to keep them from fishing in a sea. Participants in a forestry common-property management regime can also see some link between assuming their responsibilities and receiving benefits, though not as clearly as with irrigation, where the operation and maintenance of the system typically depends directly on users maintaining the channels, drains, and the like. In this case, sanctions against free riders, such as poachers, do present some difficulties. Such problems, and an analysis of related failures, are well documented, for example, cases in India (Singh, 1991; Basu, 1990) and the Philippines (Cornista, 1993).

A more careful analysis of the three cases suggests that common-property management regimes or user group management systems, not only can be viable, but, in some circumstances are essential, as we have seen in the realms of water management and irrigation at the local level. Indeed, many successfully managed common-property resources have survived for centuries relying on self-monitoring and self-enforcing patterns of human interaction[57]. A user-group collaborative approach, which is extended to self-management in the case of common-property management regime, is presented as an alternative to privatization and centralization for managing the commons.

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[56] Although Alanya is a successful story, Ostrom (1990:179) identifies it as a fragile success since the rules developed by the community "do not address the problem of limiting access to the local fishery. At the current time, the number of fishers desiring to fish in Alanya does not threaten the viability of the fishery. But if more individuals were to want access to the fishery, a problem could well arise in Alanya".

[57] See Berkes (1989), Bromley et al (1992), Feeny et al (1990), McCay and Acheson (1987), Ostrom (1990), and Ostrom et al (1993).

In sum, collaborative approaches are proposed as a viable strategy that falls between two sides. On one side, there is complete control by the state within a centralization model or by the market within a privatization model. On the other side, there is control assumed by the local community such as in the case of common-property management regimes. The first is problematic because of its compatibility with the principles of sustainable urban development, particularly the principal of social equity. The second is also incompatible with the characteristics of the urban context in which various stakeholders have different interests and whose cultural norms are, perhaps, widely divergent. The following chapter provides an outline of an alternative strategy to manage valued natural environments within the urban fabric.

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Chapter V

MODELING COLLABORATIVE MANAGEMENT

This chapter consists of four interrelated sections. The first defines collaborative management and states the purpose of undertaking such strategies. The second examines how collaborative management strategies emerge. The chapter then proceeds progressively through the actual operation of collaborative processes, and examines how these processes are constructed. The final section focuses on the evaluation of collaborative management, providing the purpose for evaluation and reviewing two different perspectives that define effective collaborative management. An evaluative framework is then proposed to assess the effectiveness of collaborative efforts in managing valued natural environments with the urban fabric.

5.1. DEFINING COLLABORATIVE MANAGEMENT

Over the years, several definitions of collaborative management have emerged (Bishop and Bonner, 1995; Freeman et al, 1996; Friedmann, 1992; Healey, 1997; Innes, 1992; and Innes et al, 1994). Most of these definitions draw on experiences in integrated environmental planning and management (chapter 3), conflict mediation, community development and Local Agenda 21 (Healey, 1998).

Collaboration implies a joint decision making approach to problem resolution where power is shared and stakeholders take collective responsibility for their actions as well as the subsequent outcomes (Selin and Chavez, 1995). Gray stressed this conceptual definition of collaboration, and referred it to "the pooling of appreciation and/or tangible resources (e.g., information, labor, resources, etc.) by two or more stakeholders to solve a set of problems which neither can solve individually" (Gray, 1989: 91). Stakeholders refer to individuals, groups and formal organizations that have a perceived interest or impact on a particular environment or resource (Innes and Booher, 1997).

Murphee (1994) defines collaborative management as a broad concept that covers an assortment of managerial arrangements. Berkes and associates point out that collaborative management is "the sharing power and responsibility between the government and local communities" (Berkes et al, 1991). In the same vein, Borrini-Feyerabend also notes that:

> Collaborative management [is used] as a broad concept spanning a variety of ways by which the agency in charge and other stakeholders develop and implement a management partnership (Borrini-Feyerabend, 1996: 16).

Some critics have questioned such broad definitions. Healey notes that "the term collaborative management has been used to span the spectrum from purely consultative arrangements to the co-equal status accorded indigenous treaty rights", adding that, "this is a clearly broad spectrum – so broad as to be almost meaningless" (Healey, 1997: 36).

Responding to this argument, other scholars have tried to give collaborative management meaning by focusing on both its key elements and its process. Penrose and associates define the nature of different stakeholders' relationships within a collaborative process by pointing out that:

> [Collaborative management] means that on a certain set of issues, for a defined period of time, those with authority to make a decision and those who will be affected by the decision are empowered to jointly seek an outcome that accommodates rather than compromises the interests of all concerned (Penrose te al, 1998: 27).

Bass and associates examined collaborative management strategies in several processes and plans such as the Canada Green Plan, the Dutch National Environment Policy Plan and the Botswana National conservation Strategy (Bass et al, 1995). They found that the key element that appears to determine the demarcation of various models of collaborative management strategies is the sharing of management responsibilities and decision making among the different stakeholders (Bass et al, 1995). It is difficult, however, to identify a sharp line of demarcation between various collaboration levels in management activities.

For example, a process of active consultation with local stakeholders may result in the full incorporation of their concerns into the management plan. Conversely, a lengthy negotiation in which various stakeholders participate may leave many local demands unmet. Therefore, the appropriate type of collaborative management will depend upon each particular context. Borrini-Feyerabend states that collaborative management is implemented through:

> ...a partnership in which governmental agencies, local communities and resource users, non-governmental organizations and other stakeholders share, as appropriate to each context, the authority and responsibility for the management of a specific territory or a set of resources (Borrini-Feyerabend, 1996: 18).

There are several reasons and motives to adopt a collaborative management strategy. One views collaborative management as a means to increase efficiency, the central notion being that if various stakeholders are involved, they are more likely to agree with and support new interventions (Bass et al, 1995; World Bank, 1994). The experience of the Commission on Resources and Environment (CORE) in Vancouver, B.C. shows significant evidence to support this theory.

Another perspective is related to the participation of various stakeholders in the decision-making within a collaborative process. Gardner states that this "is not an end in itself, but a means to better decisions" (Gardner, 1989). According to Williams and associates, the main benefit to be gained from a collaborative management strategy remains "the involvement of a wider range of interests and values in the decision making process than would typically be included in conventional rational processes" (Williams et al, 1998: 6). This situation does not come, of course, without a price in terms of additional time and efforts to make decisions (Paul, 1987). Bass and associates enumerate several costs related to such collaboration such as time, skills, communications and management requirements (Bass et al, 1995: 47-50). Borrini-Feyerabend also identified several risks that may be coupled with high public participation in decision making, such as the mistrust people may have in the motives for participation (Borrini-Feyerabend, 1996: 26-27).

A different perspective views collaboration as a fundamental right, in which the main aim is to initiate mobilization for collective action, empowerment and institution building (Pretty, 1995), part of a more fundamental restructuring of society and social decision-making in terms of participatory democracy and social justice (Gauthier, 1998). In this context, public participation in decision-making within a collaborative process is essential to improve local ownership of planning and implementation in its entirely (Freeman et al, 1996).

Further, political motives are clearly an important reason why public officials may support some type of public participation program, but its fundamental justification rests elsewhere, and refers to enhancing the government's credibility in the public's eyes, thereby legitimating government actions (Brennis and M'Gonigle, 1994).

In other words, Berkes states the benefits of collaborative management in the context of natural resources as follows:

> From the government point of view, user participation in management is likely to lead to a stronger commitment to sustainable use, a higher degree of acceptability and compliance, and lower enforcement costs. From the [public] point of view, collaborative management makes it possible to articulate community concerns, protect the [local] economy, and safeguard rights against threats to the land resource base (Berkes, 1994: 20).

In summary, there are key-elements that appear to define collaborative management strategies, elements that include involvement of the different stakeholders in the decision making process and the sharing of management responsibilities among them. Furthermore, collaborative management strategies depend upon each particular context, and on the challenge that this context represents to each stakeholder. In other words, approaches to stakeholders' collaboration with respect to the management of various valuable natural environments are related to their specific environmental, political, social and economic contexts, and cannot be appreciated outside such contexts. The following section examines the different context in which collaborative management can emerge.

5.2. INITIATION OF COLLABORATIVE MANAGEMENT

Collaborative management emerges out of different contexts. It can emerges as a response to a particular crisis situation (Waddock, 1989) wherein that crisis usually takes the form of dramatic deterioration of environmental conditions that can hinder, for example, the livelihoods of people and/or puts the integrity of an ecosystem at risk. In this case, collaborative management offers a desirable arrangement to stop this crisis, to prevent it or at least to cope with it.

Two examples illustrate such contexts: the Fraser River in Vancouver (Marshall, 1998) and San Francisco Bay in San Francisco (Trépanier et al, 1986). Both cases emerged from increasing pressures associated with rapid population growth, resource extraction and economic development, pressures which hinder the ability of the two natural environments to sustain themselves. These contexts mobilized several stakeholders in Vancouver and San Francisco, respectively, to collaborate in order to manage their valuable environments. The mobilization led to the establishment of two coordinating bodies of several governmental and non-governmental interests to facilitate shared decision-making: the Fraser Basin Council in Vancouver and the San Francisco Bay Conservation and Development Commission in San Francisco. The success of the two collaborative management cases is built on "creative partnerships among committed stakeholders who have a working appreciation of sustainability principles" (Williams et al, 1998).

Many collaborative efforts initiated as a response to crisis, when resolved, frequently lead to the dissolution of the collaborating group. Wilcox stresses such a tendency and describes this mode of initiation as a fragile process that can break down at any stage (Wilcox, 1994). An effective collaborative strategy is characterized, therefore, by a continuous commitment of all stakeholders to manage their environment (Penrose et al, 1998; Singerman, 1995). While this commitment depends upon the motives of each stakeholder with respect to collaborative management, the initiation process differs when these motives change.

First, the local community itself can initiate collaborative management strategies based on a common vision or understanding that exists among a set of resource stakeholders. Where a common vision exists, there usually exist established networks. These networks can take the shape of formal arrangements such as community groups, residents associations or standing committees, where stakeholders can formally communicate (Pretty, 1995). Self-organization can also take the form of informal arrangements such as in the case of popular networks (Singerman, 1995). Warner notes that leadership is essential to provide the energy and vision which will mobilize others to collaborate (Warner, 1997).

Collaborative management can also be legally mandated. Gauthier examined twelve cases in Quebec, Canada in which provincial and municipal governments have required an involvement of the general public in all phases of planning and management (Gauthier, 1998). The formal mandate usually coincides with an effort towards decentralization and the subsequent need to devolve several responsibilities from provincial government agencies to municipal authorities and/or community groups (Gauthier, 1998). This approach has often been justified by the absence of sufficient public funding for environmental improvements (Trépanier et al, 1990).

Thirdly, collaborative management can be initiated through the intervention of a third party, for example, a broker, a mediator or an external agency. Gauthier illustrated the role played by the mediator in the consultation process within the twelve urban projects he examined in his study (Gauthier, 1998). Lewis also analyzed the role of a mediator in managing conflicts in 27 case studies of protected areas. He examined how the mediator served as a neutral party to assist stakeholders within different local communities to initiate a collaborative process for managing their environments (Lewis, 1996). Such a facilitator or enabler role has been recently assumed by several development assistance agencies whose objectives are, usually, to mobilize local communities by showing them the potential of success in collaborative management strategies (Cusworth and Franks, 1993; Ghai and Vivian, 1995)

One main issue must be stressed at this point: no matter where or how the collaboration initiative is "born", this position may change. Brown and Jacobson affirm that environmental management initiatives take place in a setting of constant change (Brown and Jacobson, 1987). This change occurs as a result of new contextual aspects and stakeholders must adjust to a host of ecological, social, political and economic forces that influence how an environment will be managed. Some of these forces operate to bring stakeholders together (see table 5.1), while other forces work against collaboration, when interest groups become polarized around controversial issues, for example (Borrini-Feyerabend, 1996).

Table (5.1): **Initiation of Collaborative Management Strategies**

INITIATORS	ELEMENTS
Context	• Desirable response to a Crisis
Self-initiation	• Common vision and understanding • Existing networks • Leadership
Mandate	• Legal requirement • Attempt to decentralization
Third party	• Mediator or broker • External agency

While change can be slow, progressive or sporadic, it is clear that feedback from each situation will lead towards a better recognition of specific needs and/or opportunities for involving stakeholders. This is a process of "learning-by-doing" that initiates transformation for the long-term. Such a transformative process would permit the stakeholders to adjust their actions so that they can perform at an effective level.

5.3. OPERATION OF COLLABORATIVE MANAGEMENT STRATEGIES

Several scholars have attempted to model the operation of collaborative management. Fisher, for example, promoted a collaborative process with respect to the management of forests (Fisher, 1995). Pomery also focused on the operation of collaborative management processes with respect to fisheries (Pomery, 1995). Further, Borrini-Feyerabend conceptualized the collaborative process with respect to the management of protected areas in three phases (table 5.2) (Borrini-Feyerabend, 1996: 29). It should be noted that these models describe ideal sets of circumstances that are often defining the effectiveness of the collaborative process.

Several stages are common in these attempts to describe the operation of a collaborative management process. In the first stage, consensus is reached regarding whom has a legitimate stake in an issue. Participants begin to appreciate the interdependencies that exist among them and realize that managing the environmental problem will require collaborative intervention (Borrini-Feyerabend, 1996); stakeholders begin to mutually acknowledge the issue that brings them together. The goal of this stage is to give the issue an explicit identity so stakeholders can communicate and eventually act.

The collaborative process next evolves into a direction setting stage where stakeholders begin to identify and appreciate a sense of common purpose (Bass et al, 1995). By expressing their individual interests, shared interpretations of the future emerge as stakeholders discover commonly held beliefs. This process is facilitated by joint, information search activities where participants mutually examine relevant data (Berkes et al, 1991). Operationally, goals are established, ground rules set and subgroups organized to examine specific issues (Bass et al, 1995).

Table (5.2): **Possible Steps in a Collaborative Management (CM) Process**

STEPS	ELEMENTS
Step 1: **Preparing for the partnership**	• Assess available resources, appoint CM team; • Preliminarily identify main stakeholders; • Review land and resource uses and existing conflicts; • Assess need and feasibility of developing CM agreement • Begin a stakeholder analysis, identify criteria to distinguish among stakeholders; • Contact stakeholders, carry out participatory appraisal exercises such as an Rapid Urban Appraisal (RUP) and continue the stakeholder analysis in a participatory way as appropriate; • If needed, support stakeholders to organize, identify their representatives and develop an internal consensus on their interests and concerns regarding the protected areas.
Step 2: **Developing the agreement**	• Appoint an independent facilitator; • Hold a first procedural meeting among stakeholders; • Hold a series of consultations and/or planning meetings among stakeholders; • Support the negotiation, mediation or arbitration of conflicts as needed; • Reach a basic consensus and/or common vision an agreement with mention of specific functions, rights and responsibilities of stakeholders, as appropriate; • Publicize the consensus or agreement, hold a ceremony to underline its importance.
Step 3: **Implementing and reviewing the agreement (learning-by-doing)**	• If applicable, set up a relevant CM institution; • Carry out management activities; • As needed, clarify the responsibilities and rights of stakeholders, manage conflicts and enforce the agreement; • Monitor activities and results on an on-going basis; • On the basis of the vision, agreement and monitoring results, hold regular reviews with all relevant stakeholders; • If necessary, carry out required changes and/or go back to developing a new agreement.

Source: Borrini-Feyerabend (1996: 29)

A third stage involves organizing the shared meaning of the group and devising a regulatory framework to guide future collective interventions. Legal forms of organizing are instituted, roles assigned and formal agreements reached to assure collective compliance to the goals of the group (Berkes, 1994; Bishop and Bonner, 1995). In order

to support such interventions, either a new institutional arrangement is created or institutions in place are strengthened (Ostrom, 1995; 1997). The challenge is to coordinate the efforts of these institutions and sustain their functioning by adequate resource allocations (Oakerson, 1992; Ostrom, 1990). In some cases, the stakeholders carry out several informal coordinated activities to influence decisions taken (Singerman, 1995). It must be recognized that the institutional culture within many agencies may hinder the collaborative process. Table (5.3) illustrates the stages that summarize the different components of an adequate collaborative management process.

Table (5.3): **The Collaborative Management Process**

1 **PROBLEM-SETTING**	2 **DIRECTION-SETTING**	3 **ORGANIZATION-SETTING**
• Identify stakeholders	• Establish goals and set rules	• Create or strengthen institutions
• Recognize interdependence	• Share joint resources (e.g., information)	• Formalize relationships
• Build consensus on legitimate stakeholders	• Explore options	• Assign roles and elaborate tasks
• Reach common problem definition	• Build consensus on decisions	• Coordinate Efforts and allocate resources.

Source: Adapted from Berkes et al (1991); Fisher (1995); Pomery (1995); and Selin and Chavez (1995).

Three main issues are stressed at this point. First, it is clear that _access to the process_ by various stakeholders is necessary within a collaborative management strategy. This access is reflected by a consensus on legitimate stakeholders who share a common problem definition, have joint information and resources. Second, various stakeholders _share decision making_ in a collaborative process. This includes jointly establishing goals and setting ground rules, as well as collectively exploring different options and decisions. Finally, a legal form of organizing, namely an _institutional arrangement_ is necessary to clarify the responsibilities and coordinate the efforts of various agencies. Adequate

resource allocations will maintain the functioning of these institutional arrangements, resulting in sustainable collaborative management processes.

5.4. EVALUATING COLLABORATIVE MANAGEMENT STRATEGIES

Collaborative management strategies provide an alternative way of working for innovative solutions with respect to the management of valued natural environments within the urban fabric. What is lacking now, however, is a framework to measure the effectiveness of these newly emerging collaborative models. Are they in fact meeting the challenges of an integrated approach? Are they yielding better decisions? Are they creating supportive frameworks for change and sustainable solutions?

In the following section, the conceptual framework of the thesis is refined into a set of criteria against which collaborative management strategies may be evaluated in terms of their effectiveness. By the term effectiveness, the emphasis in this thesis is on the political dimension of sustainable urban development, namely what is related to the human-human and human-nature relationships. To this end, the section examines the purpose of evaluation, reviews the existing evaluative frameworks for collaborative management, and then proposes a set of specific criteria which provide the basis for evaluation.

5.4.1. The Purpose of Evaluation

Evaluating a collaborative management strategy is by no means an easy task. Conventionally, one would ask whether a process fulfilled its objectives, or not, and did it do so cost effectively[58]. In practice, the challenges of performing such an evaluation with respect to collaborative management are many. How can we evaluate whether a

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[58] This type of evaluation is concerned primarily with whether the strategy or its process is being carried out as planned, and the focus is on input and output activities. Standards of performance are established in advance and the activities are constructed to these standards (see the web site of the American Evaluation Association <www.eval.org>). This traditional type of evaluation is heavily criticized for not paying attention to "the real voices of real people" (Fowler, 1997: 162). In other words, it merely highlights targets rather than demonstrating the effect activities have on people.

collaborative process fulfilled its objectives or goals or not, when these are not fully articulated and/or agreed to until the strategy is well underway, if then?

Collaborative management strategies are usually planned to produce change or transformation; such strategies are not uniquely a set of activities *per se* (see 5.2 and 5.3). In this sense, an evaluation becomes part of the process of change and a way to increase the effectiveness of the strategy (Flower, 1997; Innes and Booher, 1997). In other words, evaluation provides feedback about the produced effects and changes that would take place as a consequence of undertaking this collaborative strategy.

The benefits of this dynamic evaluation can be considered from many points of view. As Kline stresses in the context of sustainable communities, evaluation and feedback help participants to determine how far they have progressed, what the next steps should be and which changes or adjustments need to be considered in the future. Furthermore, Kline elucidates the inherent worth of the exercise:

> Evaluation is also an important way to motivate people to continue and expand their contributions. Most people like to feel a sense of accomplishment as well as a clear sense of direction … Evaluation also enables people to hold each other accountable for results with this knowledge, choices can be made to support, revise, or restructure agendas, approaches, and techniques. (Kline, 1996:1-2)

Fetterman and associates argue that evaluation is not only limited to a simple assessment of outcomes, but also that evaluation enhances the stakeholders' capacity to participate in the decision making process. In their book entitled *Empowerment Evaluation*, they point out that evaluation can be an "eye opening, revealing and enlightening experience. Typically, a new insight or understanding about role, structures, and program dynamics is developed in the process of determining worth and striving for program improvement" (Fetterman et al, 1996: 15).

In sum, appropriate evaluation methods are part of an ongoing process of improving the effectiveness of collaborative management strategies. They help to understand the current strengths and weaknesses of these collaborative strategies and to determine where to go

next. Evaluation is conducted to motivate the stakeholders to continue their support for the collaborative strategies; as well, it enhances their capacity to participate in the decision making process. Furthermore, evaluation enables the stakeholders to hold each other accountable for the progress reached. Although there are various benefits of evaluation, defining the proper framework to evaluate collaborative management strategies remains a challenge.

5.4.2. A Review of Existing Evaluative Frameworks

An evaluative framework can be thought of as the *tool* that will assist in working through an evaluation exercise. The framework is usually developed to ensure that decisions are made in a consistent and comprehensive manner. It must function in a decisive manner, determining what information must be collected and to help draw conclusions about the progress that is made with respect to collaborative management (Dowling and MacLachlan, 1997).

Several interrelated fields of study have contributed to the development of evaluative frameworks with respect to collaborative management. These include literature on collaboration theory, interest-based negotiation, consensus decision-making, conflict management and public participation models (Borrini-Feyerabend, 1996).

Two frameworks are examined here to evaluate collaborative management strategies. Each framework focuses on one dimension of collaborative management (section 5.3). The first employs the concept of ladders of public participation modeled after Arnstein (1969), and focusing on public participation in the decision making process. The second, centering on the conditions for success and adaptation of institutional arrangements, is modeled after Ostrom (1990).

5.4.2.1. Ladder of Public Participation:

Arnstein is well known for her suggestion that participation is a progressive concept, identifiable as "rungs in a ladder" (table 5.4). She identified eight "rungs" of citizen participation, ranging from manipulation, non-participation, and consultation, tokenism, to citizen control or citizen power. On the bottom rungs of the ladder, power-holders "educate" the participants. In the middle rungs, citizens have the power to hear and be heard, but do not have enough power to ensure that those with ultimate power will heed their views. On the top rungs are the citizens who have a majority voice in decision-making or full managerial power.

Several adaptations of this ladder have emerged to evaluate the degree of local participation in collaborative management arrangements. Each of these adaptations has focused on the degree of local participation in natural resource collaborative arrangements within one sector, such as fisheries (Pinkerton, 1994; Pomeroy, 1995), forestry (Fisher, 1995; McNeely, 1994) and protected areas (Borrini-Feyerabend, 1996).

Table (5.4): **Ladder of Public Participation**

8. Citizen Control **7.** Delegated Power   *TRUE PARTICIPATION* **6.** Partnership
5. Placation **4.** Consultation   *DEGREES OF TOKENISM* **3.** Informing
2. Therapy **1.** Manipulation   *NON-PARTICIPATION*

Source: Arnstein (1969: 217)

Further, the adaptations also focused on the substance of Arnstein's model. For example, Wilcox has subsequently amended Arnstein's spectrum of citizen participation to suggest a simpler model that consists of five key stages of participation ranging from information, consultation, and deciding together to acting together and supporting independent community initiatives (Wilcox, 1994). Table (5.5) illustrates another enhancement of Arnstein's model in which Pretty classifies three levels of public participation in the decision-making process (Pretty, 1995).

Table (5.5): **Levels of Public Participation**

LEVELS	ELEMENTS
LOW	• Public participants listening only or receiving information from one actor (e.g., governmental agency) • Public participants listening and giving information through public inquiries or media activities.
MODERATE	• Public participants being consulted through working groups and meetings held to discuss the process; • Public participants setting the agenda through multi-stakeholder groups, round tables and commissions.
HIGH	• Public participants reaching consensus on the main elements of the process (e.g., through select committees) • Public participants involved totally in decision–making on the planning and the implementation of the process.

Source: Adapted from Pretty (1995)

In the same vein, Berkes and associates made significant contributions in adapting Arnstein's model to collaborative management. They moved away from the "non-participation" ladder of Arnstein, and promoted a scale with seven levels of collaborative management (table 5.6). This scale illustrates some of the possibilities of power and responsibility sharing, from limited amounts of local participation in government management to the delegation of full management authority to the local level (Berkes et al, 1991).

The emphasis of all these models is on sharing decision-making power, and on sharing it between government and citizens. This follows the conceptual definition of collaborative management, which suggests that true public participation does not begin until some degree of decision-making power is shared (section 5.1). For Arnstein, genuine participation is primarily a reflection of power. She points out that:

> Participation without redistribution of power is an empty and frustrating process for the powerless. It allows the powerholders to claim that all sides were considered, but makes it possible for only some of those sides to benefit. It maintains the status quo. (Arnstein, 1969: 219)

Table (5.6): **Levels of Collaborative Management in Berkes *et al*'s model**

7	**Partnership / Community Control**	Partnerships of equals; joint decision-making institutionalized; power delegated to community where feasible
6	**Management Boards**	Community is given opportunity to participate in developing and implementing management plans
5	**Advisory Committees**	Partnerships in decision-making starts; joint action on common objectives
4	**Communication**	Start of two-way information exchange; local concerns begin to enter management plans
3	**Co-operation**	Community starts to have input into management, e.g. use of local knowledge, research assistants
2	**Consultation**	Start of face-to-face; community input heard but not necessarily heeded
1	**Informing**	Community is informed about decisions already made

Source: Berkes et al (1991:16)

Berkes also stresses that "real co-management involves shared decision-making powers by the partners and requires governments to devolve some of their power to the partners" (Berkes, 1994: 18).

In this sense, consultation, the currently predominant form of public participation, is viewed as a "widow-dressing ritual" which provides the public only with an opportunity to "participate in participation" (Fisher, 1995). Further, "good" or "effective" collaborative management ranges between levels 5 and 7 of Berkes' scale.

5.4.2.2. <u>Adaptation of Institutional Arrangements</u>:

This is another evaluative framework that focuses on the institutional arrangements in place. Institutions are the medium through which a collaborative management strategy is implemented. Ostrom defines "institutions" as:

> ... the sets of *working rules* that are used to determine who is eligible to make decisions in some arena, what actions are allowed or constrained, what aggregation rules will be used, what procedures must be followed, and what information must or must not be provided. (Ostrom, 1990: 51)

Any change in these "working rules" implies an adaptation[59] within the institutions to cope. Institutional adaptation becomes, therefore, a key criterion of an effective collaborative management as argued by several scholars (e.g., Berkes, 1997; Ostrom, 1990; 1997; Oakerson, 1992; Watson et al, 1996). Innes and Booher illustrate the importance of the adaptation criterion by pointing out that:

> This is like a sailor that continually adjusts his sails and steering to get as close as possible to his desired direction. As the wind and water change, he may also decide to alter his destination. (Innes and Booher, 1997: 8)

In this sense, the evaluative framework defines the aspects that are likely to affect the institutions in place in delivering collaborative management. Ostrom defined these

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[59] Adaptation is the process of change: a change in response to some outside influence in the environment that enables an individual or an organization to better adjust to its circumstances. In a sense, adaptation is action in response to environmental change, and it is the product of an evolutionary process (Brandon, 1990). In recent years, Holling (1978) and Walters (1986) developed the concept of adaptive management. The term has been used to describe an approach to understand and manage large-scale and complex systems, including ecosystems. Adaptive management begins with the assumption that there is a limited

aspects and promoted several principles for a rigorous institution (Table 5.7). The more of these principles are present, the more likely an institution's rigor and success. Several amendments were further added to Ostrom's model such as Murphee's (1994), and applied in many papers and reports, for example, Trépanier *et al* (1990).

Table (5.7): **Principles for Effective Institutions**

- **Clearly defined Boundaries and Rules**

  A clearly defined boundary of the natural environment in question will facilitate the clear definition of the institution's responsibility. The identification of rules is likely to facilitate its operation.

- **Collective-Choice arrangements**

  Most individuals affected by the operational rules can participate in modifying the operational rules

- **Monitoring and Graduated sanctions**

  Individuals who violate the operational rules are likely to be assessed graduated sanctions (depending on the seriousness and context of the offense) by other stakeholders, by officials accountable to these stakeholders, or by both. Enforcement of rules increases the confidence of individuals in their institutions.

- **Conflict-resolution mechanisms**

  Stakeholders have rapid access to local arenas to resolve conflicts among them. Sometimes, these mechanisms can be informal, and those who are selected as leaders are the basic resolvers of conflicts.

- **Minimal recognition of rights to organize**

  The rights of local stakeholders to devise their own institutions are not challenged by external governmental authorities.

Source: Adapted from Ostrom (1990: 90)

Two emphases characterize this evaluative framework of institutional adaptation. The first emphasis is on the contextual aspects that provide the successful conditions of such institutions. These aspects include existing legislation, regulations and processes (Fowler,

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understanding of complex natural ecosystems. This limitation of understanding is usually coupled with an

1997; Oakerson, 1992). The second emphasis is on the internal aspects of these institutions such as the management and administrative structures in place. The focus is on the availability of financial resources and human expertise, existing leadership, as well as the coordination between various different levels, vertical, and among various entities, horizontal (Watson et al, 1996).

In sum, the focus of this evaluative framework is on the adaptation of institutional arrangements to cope with any change in the working rules. These rules are likely to affect the conditions for success of the institutions in place. Key institutional variables include contextual and internal aspects. The first refers to legislation, regulations, national and local policies and guidelines within the institutional context in place. The second concerns the administrative organization, the coordination within this administrative structure and the financial arrangements in place.

5.5. THE PROPOSED EVALUATIVE FRAMEWORK

The most striking common feature in these models is their similar "end", which defines an effective form of collaborative management. In the context of this thesis, effectiveness refers to the extent to which citizens' voices are heard and to the institutional adaptation that took place as a result of a collaborative effort. In other terms, the emphasis is on the political aspect related to the process and the institutional dimensions of collaborative endeavors, and less to the extent to which environmental goals are reached.

The presented models differ, however, in their "means". From one point of view, the effectiveness of collaborative management is evaluated by determining the level of public participation in the decision-making process, while from the other point of view, an evaluative framework must stress the necessity of adaptable institutions that are able to deliver effective collaborative management. By focusing on one dimension, these evaluative frameworks fall short of separately informing how and why change is taking place all along the collaborative process. Consequently, each alone provides no

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uncertainty about the right action for managing these ecosystems.

information on the barriers that may block further progress towards more effective collaborative management strategies. Much more is often achieved through these strategies than what is revealed by each of the evaluative frameworks separately.

Missing from these two dimensions in the evaluative frameworks is the initiation phase of collaborative management. A contextual dimension is a premise for any proposed evaluative framework, since collaborative management cannot take place without a context in which various stakeholders are committed to collaboration (section 5.2).

This research proposes an evaluative framework that amalgamates these three dimensions: the contextual, process, and institutional. The proposed framework reflects a long-term vision that includes not only the adaptation and performance of the institutions in place and/or the operating process, but also the initiation of the collaborative intervention. Ostrom states that "successful collaborative management strategies become a long-term endeavor that require much patience, and trial-and-error before they can begin to operate effectively" (Ostrom, 1997: 15). In this sense, effectiveness becomes a result of this long-term approach that reflects any change or transformation in the initiation, operation or implementation of the collaborative process.

The criteria that form the proposed evaluative framework have been distilled from the characteristics of collaborative management (sections 5.1; 5.2; and 5.3). They also flow from the conceptual framework discussions on common-property management regimes (Chapter 4). Further, they are judged to cover the most significant concepts relating to the interface between the principles of sustainable urban development (chapter 1) and integrated environmental planning (chapter 3). They are, therefore, by definition, crosscutting and interrelated, and are categorized in terms of context-oriented, process-oriented and institution-oriented criteria. Table (5.8) provides the main dimensions and some criteria of the proposed evaluative framework. It is difficult, however, to measure progress towards somewhat intangible criteria such as commitment, balance or adaptation. Further, some of the criteria overlap such as in the case of the relationship between political commitment and the provision of supportive legal framework and

adequate financial resources. The following, therefore, addresses the components that indicate progress in relation to these criteria.

Table (5.8): **The Proposed Evaluative Framework**

DIMENSIONS	CRITERIA	COMPONANTS
Context-oriented	Commitment to collaboration	• Community Commitment • Political Commitment
Process-oriented	Balance of Power	• Access to the Process • Sharing Decision Making
Institution-oriented	Adaptation of Institutional structures	• Supportive Legal Framework • Coordinated Arrangements • Adequate Financial Allocations

5.4.3.1. Commitment to Collaboration:

There is an overriding need to foster a sense of collective commitment and shared responsibility by demonstrating the need for collaboration. As argued in section 5.2, such commitment is necessary from all stakeholders for collaborative management to become a reality. According to Berkes and associates, this criterion helps in generating and maintaining the long-term interest and support of the community and the political authorities in place (Berkes et al, 1991).

In this sense, stakeholders are more likely to take steps in this long-term endeavor if these collaborative efforts are shown to be related to their individual and collective interests and beliefs (Innes and Booher, 1997). Community groups will take responsibility for changing daily habits and practices to support collaborative management (Borrini-Feyeranbend, 1996). Further, governmental authorities will demonstrate leadership and commitment to enable collaborative management to occur (Ostrom et al, 1993).

In sum, widespread commitment for collaborative management and an attitude of collective responsibility are required at all levels. This is a prerequisite for collaborative management to be effective.

5.4.3.2. Balance of Power:

As argued in section (5.3) and (5.4.2.1), the challenge within the collaborative process is to create a balance of power among different stakeholders. Power refers here to the capacity to influence the collaborative process (Bass et al, 1995). According to Berkes, no influence occurs unless the stakeholders have access to the collaborative process. When all stakeholders have access to the process and work collaboratively, they learn about each other's concerns (Berkes, 1994). Different concerns are then represented within the process. As argued by Borrini-Feyerabend, appropriate representation will reflect the level of support for collaborative management, and will assist different stakeholders to access available funding, information and expertise (Borrini-Feyerabend, 1996).

It is also important that this representation should take place effectively. This means that various representatives must not only participate in the design of the process, but also have decision-making authority that allows them to accurately communicate their interests and positions in an appropriate manner (Penrose et al, 1998). This sharing of decision-making will facilitate arriving at a consensus among different parties on the proper actions to be taken, which in turn will increase their acceptance of these actions and their further support for the collaborative process (Innes and Booher, 1997).

The challenge to collaborative management is to reach a balance of power among the different stakeholders. This balance depends on the willingness of current decision-makers and management bodies to work collaboratively with other stakeholders and share with them a meaningful level of decision making, essentially a form of power. The access of various stakeholders in shared decision making processes becomes a prerequisite for effective collaborative management.

5.4.3.3. Adaptation of the Institutional Arrangements:

As argued by Ostrom (1990) and Innes and Booher (1997), a significant challenge to collaborative management is to ensure that institutional arrangements in place are able to respond to signals for change and accommodate uncertainty. In this sense, it is necessary to develop a legal framework that can support such adaptation (Oakerson, 1992). This supportive legislation helps to clarify the responsibilities of various agencies within the institutional structure in place, and provides opportunities to develop linkages among these agencies (Fowler, 1997).

The development of partnerships enables the different parties to negotiate these linkages and emerge with coordinated arrangements. A key factor in building partnerships is to identify and nourish mutually beneficial relationships. According to Watson and associates, agencies are more likely to participate in collaborative activities if they understand what is in it for them (Watson et al, 1996). Appropriate financial allocations are an important element in this regard (Murphee, 1994).

In summary, collaborative management strategies have emerged to address several local environmental concerns. These collaborative efforts attempt to achieve progress towards sustainable urban development (chapter 1), through methods gleaned from the emerging literature on integrated environmental planning and management (chapter 3), and common-property management regimes (chapter 4).

Many collaborative endeavors have been in operation for a sufficient period of time to permit their in-depth scrutiny. This research advocates the necessity of evaluating how effective collaborative efforts are in managing valued natural environments within the urban fabric. In this thesis, effectiveness is defined in terms of sustainability and related social equity. The emphasis is on the process much more than in terms of the outcome. The focus is, therefore, on the political and institutional aspects of effectiveness.

The work of Arnstein, Berkes, Borrini-Feyerabend, Ostrom, and others, in addition to the theorists discussed earlier in this thesis, provides the background against which several elements of an evaluative framework are proposed. This evaluative framework centers on three dimensions: the context, process, and institutional structure of collaborative management. It is argued that a reasonable level of commitment to collaboration within these dimensions will permit the stakeholders to adjust their interventions in order for them to collaboratively perform at a more effective level to manage valued natural environments within the urban fabric. In this sense, the research argues that effective collaborative management is a transformative process that is the result of community and political authorities' commitment to collaboration, the balance of power among stakeholders within the collaborative process and the adaptation of institutional arrangements in place to support this process. The following empirical part attempts to support this proposed research argument.

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Chapter VI

THE METHODOLOGY

Chapter six delineates the methodology adopted to use the evaluative framework in assessing various cases of collaborative efforts. It is comprised of four sections. The first section distinguishes case studies from alternative research strategies. The second presents the case studies selection. The third provides a quality assurance model and the methods of data collection, as well as its organization in individual case reports. Finally, the last section discusses the analysis of the data collected with respect to the selected cases.

6.1. THE RESEARCH STRATEGY

This research focuses on how to evaluate collaborative management, which is proposed as the proper strategy to manage valued natural environments within the urban fabric. While several research methods are used to explain and analyze various phenomenon related to the planning domain[60], case studies are adopted as a research strategy, a strategy selected for its unique appropriateness to cope specifically with the research question. Yin points out that "In general, case studies are the preferred strategy when *how* or *why* questions are being posed" (Yin, 1994: 13). It perfectly suits the study of a decision, a process, and a strategy, since the essence of a case study resides in its objective: to illuminate a decision or set of decisions; why they were taken, how they were implemented and with what result (Neumann, 1994).

Yin gives a more technical definition of this research strategy, elaborating thusly:

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[60] These methods include surveys, observations, documentation analysis, historical research, program evaluation, attitude measurements and discussion groups. Most of these methods are borrowed from the social sciences (e.g., political science, anthropology, …). See Creswell (1994).

A case study is an empirical inquiry that:

- Investigates a contemporary phenomenon within its real-life context; when
- The boundaries between phenomenon and context are not clear by evident; and in which
- Multiple sources of evidence are used (Yin, 1989: 23).

Clearly, case studies have a distinctive place in evaluation research (Patton, 1980; Guba and Lincoln, 1981). They explain the causal links in real-life interventions that are too complex for other research strategies.

Of course, detractors exist and opponents to the case studies' research strategy are concerned about two main issues. The first common concern regarding their use is that they provide very little basis for scientific generalization. Yin provides a short answer to this concern by stressing that:

> Case studies, like experiments, are generalizable to the theoretical propositions, and not to populations or universes. In this sense, the case study does not represent a sample, and the investigator's goal is to expand and generalize theories (analytic generalization) and not to enumerate frequencies (statistical generalization) (Yin, 1989: 21).

Another frequent criticism of case studies is that they often result in massive, unreadable documents. This does not necessarily occur if the case studies are written following a thematic order, as will be clearly described in section 6.3.

In order to proceed with this strategy, the research completed three key steps; in specific sequence: definition of the conceptual framework, collection of data, and analysis of this data to arrive at a logical conclusion. While the conceptual framework is defined in the previous chapters (3-5), the research findings are presented in the following chapters (7-10). All the information has been organized and classified in three individual databases, each corresponding to a case study. Finally, an analysis of the results occurred from three cases is presented in chapter 11, an interpretation which of course is based on the defined principles within the proposed conceptual framework. Table 6.1 shows the key steps in a case study research method.

Table (6.1): **Case Study Method**

DESIGN | SINGLE-CASE DATA COLLECTION AND ANALYSIS | CROSS-CASE ANALYSIS

Develop Theory
- relate study to previous theory
- aim for explanation

Select Cases

Design Data Collection Protocol
- define "process" operationally
- define "process outcomes" (not just ultimate effects)
- use formal data collection techniques

Conduct 1st Case Study
- interviews
- observations
- documents

Conduct 2nd Case Study
- interviews
- observations
- documents

Conduct Remaining Case Studies
- etc.

Write Individual Case Report
- pattern-match
- policy implications

Write Individual Case Report
- pattern-match
- policy implications
- replication

Write Individual Case Reports
- etc

Draw Cross-Case Conclusions

Modify Theory

Develop Policy Implications

Write Cross-Case Report

Source: Yin (1994: 49)

6.2   THE SELECTION OF THE CASE STUDIES

Though this research employs multiple-case studies, each case is carefully selected either to predict similar results, a literal replication, or produce contrasting results but for predictable reasons, a theoretical replication (Yin, 1994: 46). In order to follow such a research approach, the selection of the case studies follows a set of strict criteria which follows:

- A natural environment within an urban setting that has a significant importance to the general population in place;
- An urban community that is living in proximity to this valued natural environment;
- This environment is subject to stresses derived from various human activities and development patterns;
- A collaborative strategy has taken place recently to manage this environment;
- There is availability of secondary data related to this environment.

The first three criteria define the object of the research, while presenting the interaction between this valued environment and the surrounding urban setting. The fourth criterion ensures the selection of cases in which collaborative management is a key strategy. This fourth criterion also assures wide representation of various initiation levels of such collaborative strategy: self-initiated versus mandatory or external initiation (see section 5.2.1). The final criterion ensures a better study of the cases as it provides detailed data for the purpose of comparative analysis.

Following these criteria, three cases within three different urban contexts are selected; while two cases are from a developed country, the third case is from a developing nation. In addition, two cases represent an aquatic ecosystem, while the third is a terrestrial ecosystem. Nonetheless, the three cases are all facing stresses from various activities related to land use. The selected cases are Mount Royal in Montreal, Canada, the Don River in Toronto, Canada, and Lake Timsah in Ismailia, Egypt.

This research recognizes the differences between the selected cases, their differing contexts and nature, specifically. However these cases are presented in this thesis to illustrate the key elements of an effective collaborative management strategy. They also portray the various constraints that face the practice of the proposed evaluative framework in different urban contexts.

6.3. THE COLLECTION OF EVIDENCE

6.3.1. Quality Assurance

Since a research design is supposed to represent a logical set of statements, it is also mandatory to judge the quality of any given design according to certain logical tests. Yin provided four criteria to establish the quality of the research design, and these include the construct validity, the reliability, the internal validity and external validity (Yin, 1994: 32-38). Table (6.2) lists the four criteria and some case study tactics, as well as the approach adopted in this research.

The construct validity refers to establishing correct operational measures for the concepts being studied, and this research employs several tactics to establish this validity. Linking the research problem to the research key-questions in a conceptual framework provides significant coherence of structuring the chain of evidence. This chain is established through several relationships between the concepts advanced, the data collected and the interpretation provided. The use of multiple methods of data collection has also diversified the sources of evidence.

Reliability refers to demonstrating that the operations of a study, such as data collection procedures, can be repeated with the same results and minimum errors and/or biases. The use of a case study protocol to develop a case study database reflects a tactic adopted in this research to meet the reliability criteria.

Internal validity is about establishing a causal relationship between the dependent and independent variables, whereby certain conditions are shown to lead to other conditions. In order to meet this criterion, two tactics are adopted in the research. First, the comparative analysis of the case studies uses the methodological approach of pattern matching that links the elements of the conceptual framework to the empirical evidence of the cases. The second tactic is about ensuring explanation building by organizing the data collected within a thematic descriptive framework.

Table (6.2):   **Criteria for Judging the Quality of the Research**

CRITERIA	CASE-STUDY TACTIC	PROPOSED APPROACH
Construct Validity *Establishing correct operational measures for the concepts being studied.*	• Use multiple sources of evidence • Establish chain of evidence	• Two methods of data collection: documentation and interviews (structured and semi-structured) • A conceptual framework linked to an analytical model: concepts, dimensions and indicators.
Reliability *Demonstrating that the research methodology can be repeated with the same results.*	• Use case study protocol • Develop case study data-base	• Plan of the semi-structured interviews; thematic analysis of the documentation. • Individual case study reports; the findings of the survey and the interviews.
Internal Validity *Establishing causal relationships, whereby certain conditions are shown to lead to other conditions.*	• Do "pattern-matching", linking the theoretical elements to the data collected. • Do explanation building.	• Linking the conceptual framework to the analytical model: concepts, dimensions, and indicators. • Thematic organization of the case studies.
External Validity *Establishing the domain to which a study's findings can be generalized.*	• Use replication logic in multiple case studies.	• Three cases within different urban settings are examined.

Source: Adapted from Yin (1994: 33).

External validity deals with the problem of knowing whether or not a study's findings are generalizable beyond that immediate case study. This research is based on "analytical generalization" that generalizes a particular set of results to some broader theory of collaborative management. As a result, the theory is tested in three different cases that

represent different urban contexts. Yin likens the approach, appropriately, suggesting that "replication logic is the same that underlies the use of experiments and allows scientists to generalize from one experiment to another" (Yin, 1989: 45).

6.3.2. **Methods of Data Collection**

Evidence for the selected case studies come from two main sources: documentation and interviews. The use of multiple, not just single, sources of evidence provides combined abilities to explore the setting, actors, events and processes involved in the study area (Creswell, 1994). These capabilities assure the quality of the research, and support the creation of a detailed case studies' database (Yin, 1989).

6.3.2.1 Documentation:

Documentary information refers to a set of data which take many forms such as administrative documents, formal studies and census reports, legal and formal decrees, newspaper clippings and other articles appearing in the mass media.

Because of their overall value, documentary information plays an explicit role in the data collection of case studies analysis. Yin rightly claims that "documents can provide specific details to corroborate information from other sources" (Yin, 1994: 81). Indeed, documents proved valuable in completing information that had been mentioned in the interviews. In addition, documentary information is essential when there are operational limitations in collecting primary data, for example, in Egypt where it was especially problematic to gather primary data about the political perception of Lake Timsah's users. Finally, documents provide a broad coverage of the events that include a long time span and/or many settings (Neumann, 1994).

However, documentary information is not without weaknesses. Yin states clearly that a difference may exist between the objectives of the primary data collection and the objectives of the secondary analysis (Yin, 1994: 80), a situation that may reflect an

unknown bias on the part of the primary author. In order to avoid such a problem, it was important to ensure the compatibility of the secondary data collected with the research objectives. Attention was paid even to various drafts of the same document, as subtle changes often reflected key substantive developments in the process.

6.3.2.2. Field Interviews:

Interviews are inestimably important sources of data. They can provide shortcuts to the prior history of a given situation, which also helping to identify other relevant sources of evidence (Yin, 1994). Two forms of interviews were used in this research: structured and semi-structured interviews. While the purpose of the former is to collect data about individual commitments and perceptions towards the object of the research, the purpose of the later is to corroborate interview data with information from other sources.

On one hand, the survey leads to measurable quantitative information about the change in attitudes and behavior of the public towards the environment; a structured interview, it follows a specific questionnaire (Appendix B). Based on survey data from a random sample of 180 persons, 60 persons in each of the three cases, the survey focused on attitudes towards and beliefs about the environment, especially about each of the case studies. The sample is selected from existing database in the City of Montreal, the City of Toronto, and the Central Agency for Public Mobilization and Statistics (CAPMAS). Initial screening limited the interviewed sample to persons 18 years and older and balanced the sample to include equal numbers of men and women. It is recognized that this research is limited due to the relatively small sample size in each case (N= 60). Such small sampling may not be totally representative of the general population in the three cases. However, a demographic analysis of the sample shows that significant characteristics (gender, age, activity, and education) are similar to the population in these cases. Therefore, differences from the population at large in the cases need not be a major concern here (Neumann, 1994; Yin, 1994)

On the other hand, an average of five to ten semi-structured interviews was conducted in each case, usually ranging from forty five to ninety minutes. This process involved representatives from governmental agencies in various levels, municipal, regional and provincial, the community at large, community groups, citizens and business(wo)men and external agents such as consultants, experts and development assistance agencies. Through closeness to the interviewee's experiences, asking for specific examples, and the like, as well as building trust through disclosure and sustained presence in the filed, the researcher encouraged responses natural to the way the interviewee thinks and speaks[61].

While direct quotations are seen as integral to qualitative research, confidentiality was ensured to encourage openness and minimize possible future disruption of participant interaction. Indeed, all interviews, both structured and semi-structured, were conducted in conformity with all the articles of the Université de Montréal code related to *"La politique relative à l'utilisation des êtres humains en expérimentations"*, including the confidentiality of the participants.

6.3.3. Case Studies' Database

Here we refer to organizing and documenting the data collected for case studies. In other words, it is about the creation of a report for each individual case study based on a thematic organization. Table (6.3) presents the data collected for each key theme.

There are two key-themes that describe each case study. First, the context gives the characteristics and environmental condition of the case, as well as a background reviewing previous interventions to support its management. Responding to this context, a collaborative management strategy takes place, the second key theme which consists of four elements. The initiation provides information about the take-off of collaboration. The second identifies the various stakeholders and their relationship to the case. The operation focuses on the participatory process of collaborative management and how it

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[61] See Neumann (1994) for more about closeness to the interviewee's experiences.

worked. The final element is about the achievements and interventions of such collaborative strategy with respect to the management of the case.

Table (6.3):   **The Thematic Organization of the Case Studies**

KEY-THEMES	ELEMENTS	SOURCES OF DATA COLLECTED
CONTEXT	1. Characteristics of the case	• Literature review / background studies.
	2. Previous attempts to manage the case.	• Interviews with various stakeholders.
COLLBORATIVE STRATEGY	1. Initiation.	• Reports of City Councils and Executive Committees.
		• Structured interviews on attitudes and behaviors towards these cases.
	2. Identification of the stakeholders.	• Interviews with the 3 categories of stakeholders
		• Progress reports reg. the management process
	3. Operation.	• Articles in various newspapers
		• Minutes of task forces and sub-groups at the city level.
		• Evaluation reports on the planning exercise
	4. Interventions and Achievements.	• Official decrees and legislation (official gazette)
		• Budget reports of the city.

6.4. THE ANALYSIS OF THE COLLECTED DATA

The "pattern-matching" logic is one of the most desirable strategies for case study analysis. Yin points out that:

> Such logic compares an empirically based pattern with a predicted one (or with several alternative predictions). If the patterns coincide, the results can help a case study to strengthen its internal validity (Yin, 1994: 106).

In other words, this analytical method matches the empirical pattern, one that includes several information elements on a case, with a theoretical framework, an analytical model. Such a theoretical framework mirrors the break of the research hypothesis into

dimensions, components and indicators (Table 6.4). These indicators are the explicit measures, quantitative or qualitative, that reflect the level of effectiveness of collaborative management.

Table (6.4): **Evaluative Criteria of Effective Collaborative Management Strategies**

DIMENSIONS	COMPONANTS	INDICATORS
Context - oriented	Community commitment	• Attitudes and behavior towards this natural environment • Existing networks
	Political commitment (*municipal, provincial, and / or federal*)	• Enabling Role • Availability of leadership • Political continuity and stability • External facilitator
Process - oriented	Access to the process	• Representation of interests • Access to resources
	Sharing decision-making	• Participatory design • Consensus-building • Self-monitoring
Institutions – oriented	Legal framework	• Supporting collaboration • Providing tools for environmental management
	Coordination	• Partnership agreements • Informal coordination • Leadership
	Financial allocations	• Continuity • Local investments

A simple rating system was required in this research to express, in relative terms, the different levels of effectiveness with regard to collaborative efforts. The different levels are related to the defined analytical units: context-oriented; process-oriented, and institutions-oriented. In conformity analysis, each of the collaborative management strategies which was judged to reflect or support the evaluative criteria was noted and

assigned a relative score of 1 to 3. A score of (1) signifies a low level of effectiveness; (2) a more moderate level of effectiveness; and (3) a high level of effectiveness for the collaborative management. The rating system is useful in identifying different patterns with respect to an effective collaborative management strategy.

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PART

3

THE EMPIRICAL ANALYSIS

In part three, the proposed evaluative framework is examined in three case studies. Chapter (7) presents the case of Mount Royal, Montreal. Chapter (8) provides the case of the Don River, Toronto. Chapter (9) gives the case of Lake Timsah, Ismailia, Egypt. Each of these chapters provides a description and an analysis of the selected case. Another chapter (10) provides the synthesis of the analysis by summarizing the results based on the arguments advanced in the conceptual framework. Finally, a last chapter concludes this research by providing the thesis' achievements, a broader discussion and some recommendations for future research.

Chapter VII

MOUNT ROYAL MOUNTAIN, MONTREAL

Mount Royal mirrors an important aspect of Montreal's urban landscape, representing the symbolic center of the city. As well, it includes a unique and exclusive combination of the natural and cultural heritage. Décarie states that Mount Royal is *"un espace-ressource naturel exceptionnel ayant une profondeur historique"* (Décarie, 1988: 97). This merit is evident in Mount Royal Park, one of Frederick Olmsted's masterpieces of urban landscape architecture. The mountain precinct harbors several social and institutional complexes, and is visited by more than two million persons per year (Jacobs, 1989).

As a result of modern urban recreational and development patterns, the mountain's condition has seriously deteriorated. A collaborative management approach was adopted by various stakeholders as part of an overall planning strategy in response to this deterioration and examining the case of Mount Royal provides an opportunity not only to understand collaborative management, but also to illustrate the main arguments advanced in the conceptual framework of this thesis.

This chapter consists of two sections. The first provides a description of the case study, including its context, management history, operation and the resultant interventions. The second section presents the analysis of the case study based on the proposed evaluative framework.

7.1. DESCRIPTION OF THE CASE STUDY

7.1.1. The Context

7.1.1.1. Characteristics:

Mount Royal has served as a landscape reference for Montreal since first visited by Jacques Cartier in 1535 (Marchand, 1989). It is one of the monteregian hills' chain, which is situated along the length of the Saint Lawrence River. In addition to its small vertical elevation, Mount Royal has three summits that are covered with considerable vegetation, green cover and elevation that contrast with much of the urban fabric that surrounds it. Jacobs states that "this contrast and its perceived importance are such that the hill has always been called, affectionately, a mountain" (Jacobs, 1989: 53).

As a result of 19th century industrialization progress, the population of Montreal grew rapidly, stretching the perimeter of the city up towards the base of the mountain (Figure 7.1). It was an ideal site for the establishment of several élite families who sought to be close to the downtown, at the same time as escaping the noisy life of the city. Two of Montreal's most prestigious neighborhoods were developed as a result: Westmount in the southern part of the mountain for the English-Canadians, and Outremont in the northern part for the French-Canadians. Today, three municipalities, Montreal, Outremont and Westmount share the territory of Mount Royal; wherein Montreal remains the most important municipality, in terms of population and area coverage (table 7.1). More than 150 thousands inhabitants live in different districts within the territory of the mountain (GIM, 1988: 75).

Table (7.1): Local Municipalities, population and area coverage

MUNICIPALITY	POPULATION	AREA (Km2)
Montreal	1,030,900	176.78
Outremont	22,700	3.67
Westmount	20,000	3.96

Source: *Répertoire des municipalités du Québec 1992*

Figure (7.1): **Urbanization of the mountain**

| 1933 | 1879 | 1907 | 1932 |
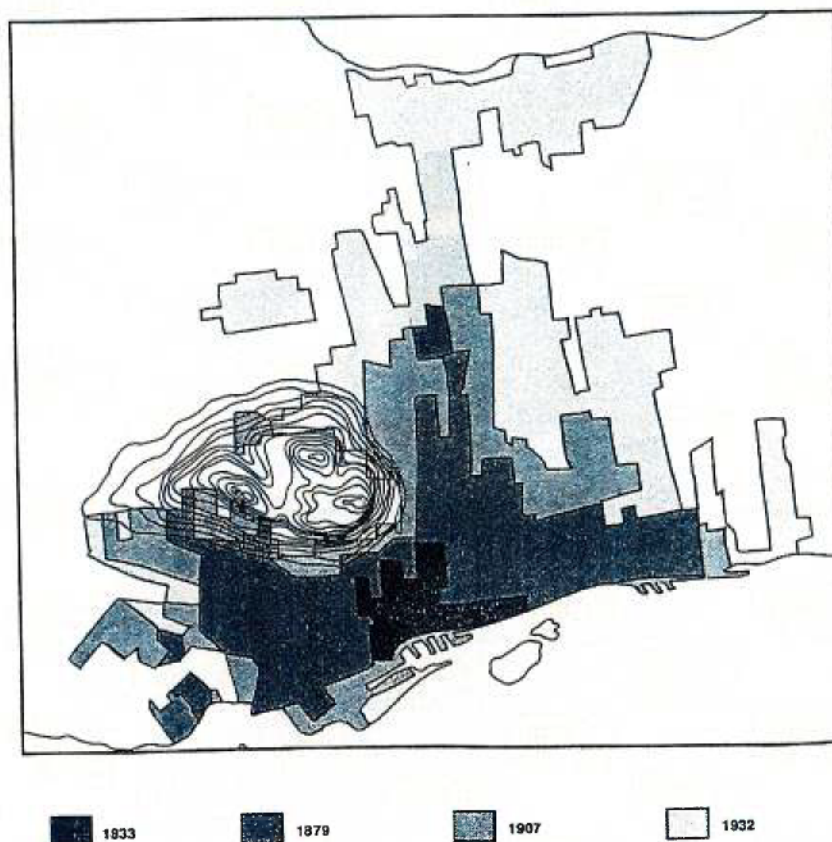
In addition to the residential character of the mountain, several institutions and buildings of great historical, cultural and architectural importance have developed in its shadow (Figure 7.2). In excess of a hundred institutions are located on the mountain, occupying almost 40% of its territory[62]. For example, a number of university campuses are established on the site of the mountain, including the McGill University, established in the

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[62] In a recent study prepared by the GIM (1988: 53), the site of the mountain is occupied - among others - by a total of 10 hospitals, 28 educational institutions, 17 churches and 3 museums. In sum, 73% of the site refer to private properties and the 27% are public properties. These public properties include 23% for the city of Montreal, 3% for the city of Westmount, and 1% for the Federal government (GIM, 1988: 58).

1830s, the Université de Montréal, as well as Collège Jean-de-Brébeuf, occupying almost 40 acres of land each (GIM, 1988: 58). Its site also includes religious institutions, l'Oratoire Saint-Joseph and three cemeteries, and several hospitals, Montréal General, Royal Victoria, and Sainte-Justine to name but a few (GIUM, 1988: 53).

In 1874, the prosperous economic situation of Montreal encouraged the municipal authority to invite F.L. Olmsted[63] to design an urban park on the mountain. This decision was an attempt to join the urban reform movement of the mid 19th century, which was characterized[64] mainly by the creation of large urban parks, such as Victoria Park in London (1842), Bois de Boulogne in Paris (1853) and Central Park in New York (1858). It was also the rapid increase of population in Montreal that pressured the municipal authority to develop a major recreational space in the city.

Figure (7.2): **The boundaries of the mountain**
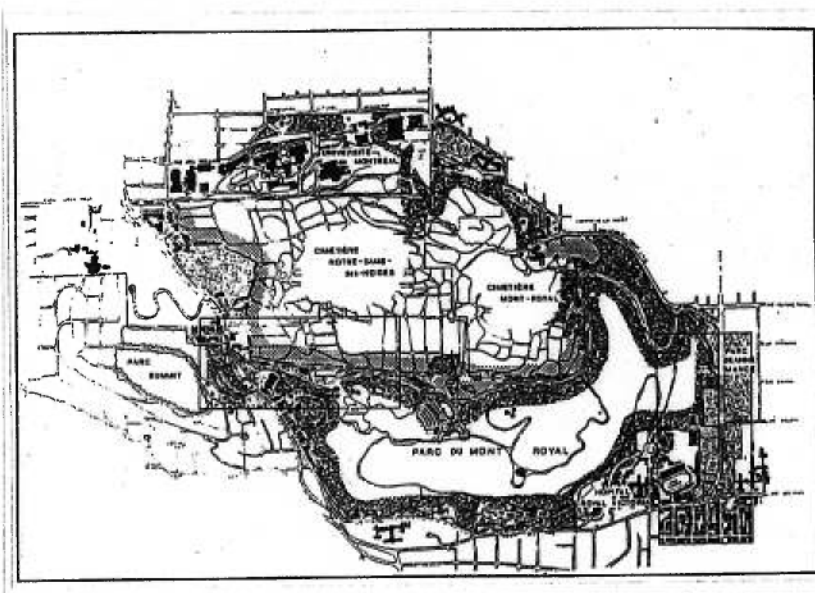
Source: Ville de Montréal (1992: 18)

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[63] See the web site on Frederick Law Olmsted at
http://www.views.com/prudential/newton/infop/olm.html.

Two principal goals guided the plans of Mount Royal Park as described and defended by Olmsted (1881). First, Mount Royal was to provide relief from the stress of urban life; Olmsted believed strongly in the healing powers of nature. At the time of the park's inauguration, Montreal was becoming an industrial city that had to deal with the externalities of factory work; Mount Royal was a perfect location to which the entire population could escape the "corruption" of the city. According to Olmsted, Mount Royal "acts in a more directly remedial way to enable men to better resist the harmful influences of ordinary town life, and recover what they lose from them. It is thus, in a medical phrase, a prophylactic and therapeutic agent of vital value" (Olmsted, 1881: 22).

The second guiding principle was the need to conserve and emphasize the natural resources of the area. All the amenities and infrastructure of the Park were designed to achieve a harmonious and coherent balance with nature. There were, for example, certain areas that were kept untouched; these were nature conservation and preservation sites where fragile plant and animal species might be found.

Olmsted also put great thought into the management of Mount Royal Park. He recognized that parks were living landscapes that change with time, as trees grow and the earth erodes due to weather and use. All these factors were taken into account when he developed plans for the long-term management of the Park. Olmsted was confident that the Park could withstand natural changes, given the right amount of management and care (Décarie, 1989). For Olmsted, good management would only be possible through inducing a few men to act in the matter who would be glared from private business, and, as in nearly all other important public business, through a more liberal delegation of responsibility and power (GIM, 1988:17).

However, since its conception, Mount Royal Park has been faced with various types of mismanagement. Olmsted early noted that there existed too much uncertainty in the actual intentions of the city authorities: ulterior motives abounded; there was general ignorance

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[64] The movement was also a symbol of the social idealism of the mid 19th century and the full commitment

of the guiding goals of the Park (Olmsted, 1881: 3-14). For example, the inauguration of the Park occurred in 1876, while the plan for the park was not even delivered until 1877 (Décarie, 1989: 34). Furthermore, important aspects of the work were completed without proper reference to the plans. Mismanagement appears to have undermined the proper implementation of Olmsted's design.

7.1.1.2. Previous Attempts to Manage Mount Royal:

The history of Mount Royal Park indicates that a lack of a formal management has resulted in various unfortunate interventions within the natural environment of the Park landscape. According to Jacobs:

> In 1868, a Monsieur *Lamothe*, one of 11 owners of mountain properties, clear-cut his forest stand during a particularly cold winter. The visual scar on the mountain so outraged the public that the city was pressured to expropriate the land (Jacobs, 1989: 57).

Later, in the context of the economic crisis of the late 1920s, the city authorities were forced to implement several infrastructure projects on the mountain's site in order to create the maximum number of jobs possible. This policy of job creation was under the Work Relief program, and the projects included installation of tramway infrastructure (1924-37); construction of the Chalet (1932); planning of several streets and parking lots, and shaping of the artificial lake "Beaver Lake" (Figure 7.3) designed by Frederick Todd in 1937 (GIM, 1988). These projects were followed by the installation of a transmission tower for Radio-Canada in 1952 and cutting of several trees during the 1950s[65].

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to the collective welfare (Zinger, 1990).

Figure (7.3): **The Beaver Lake plan prepared by Frederick Todd in the 1930s**
As part of the Work Relief Program
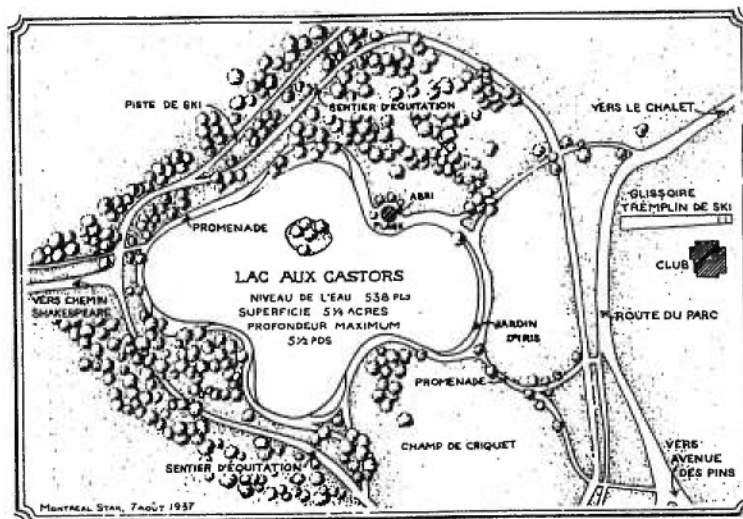
Source: GIM (1988: 21)

In the 1950s and 60s, other interventions continued to impinge on the mountain landscape. A master plan was prepared in 1955-59 by the New-York landscape architects Clarke and Rapuano (Figure 7.4). The approach of the plan reflected a shift to a more urban use similar to Central Park in New York, which had been designed by Olmsted. Proposed interventions accorded a significant place to access the mountain's park as well as the general urban transportation network. As a result, several transportation projects were proposed including a new road linking several districts around the mountain between the east and the west of the city (la voie *Camilien-Houde*). Many sport and cultural installations were also put in place, an open amphitheater, museum, arena, ice-skating rink and the like.

In 1986, a private engineering firm (SNC) proposed to build a communication tower, a proposal that also included several additional tourism infrastructures such as a new

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[65] The purpose of these "*coupes de moralité*" was to restore "public order" (GIM, 1988: 23). In 1961, it seems that "*on parle de la montagne comme un mont chauve*". Later, the municipal authorities planted once again several areas of the site (Zinger, 1990).

observation platform[66]. In the same period, McGill University attempted to build its new sports complex on the site of the mountain. This complex would imply significant deforestation (GIM, 1988: 23-24). These two recent proposals sparked the attention of several community groups, politicians and planners to protect Mount Royal against all such interventions that have in the past proven to greatly disrupt the natural environment of the mountain (Jacobs, 1989).

Figure (7.4): **The Interventions of Clarke and Rapuano in 1954**
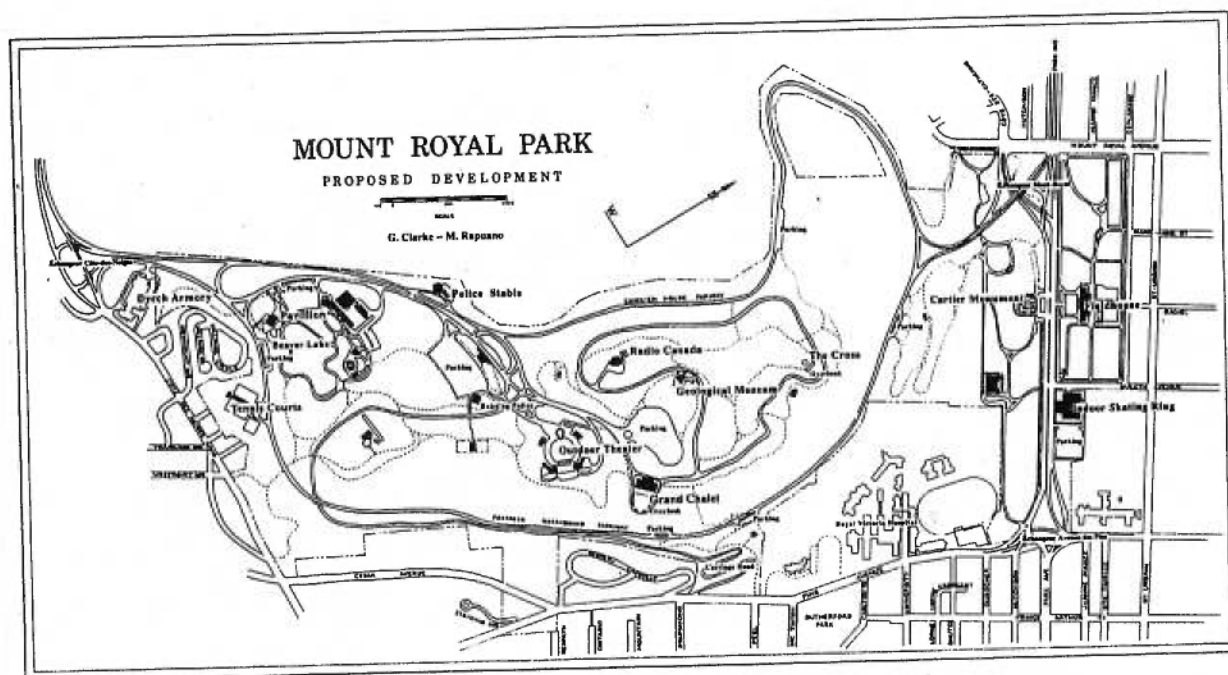
Source: GIM (1988: 23)

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[66] *Rapport d'enquête: une tour sur la montagne*, February 1986 (Laplante, Marc).

Previous interventions have caused considerable harm to the mountain. Indeed, the rapid urbanization that occurred in Montreal during the last century, coupled with an increase of urban development activities and a long history of neglect and misuse have inordinately accelerated the deterioration of the mountain's environmental conditions (Décarie, 1988). Further, the growing tourism industry and an overall increase in the visitors' flow on Mount Royal continue to harm the natural environment. Boivin and associates (1988) found that the site had lost two thirds of its forest cover during the last century. Further, the results of a recent study conducted by the Groupe Interuniversitaire de Montréal (GIM) provided evidence that the soil was being seriously compacted by the increased traffic volume, erosion on the steep slopes was accelerating, and the overall infrastructure of the mountain, stairs, trail network, lookouts, needed to be repaired and restored (GIM, 1988). All these pressures and changes have been detrimental to Mount Royal. Taking the example of the forest on the mountain, Jacobs stated that:

> Although other periodic attempts to maintain and enhance the forest cover have been initiated in the past 50 years, no structured policy, program or budget has been developed to assure the continuous management of the forest cover. Without such a commitment, the park and other sites on the flanks of the mountain face a perilous future as we approach the next millennium (Jacobs, 1989: 57).

This increasing environmental concern, as well as the concern for the overall appearance of the city, stimulated a debate about how to manage Mount Royal.

7.1.2. A Collaborative Strategy to Manage Mount Royal

7.1.2.1. The Initiation of a Collaborative Strategy:

In 1987, a new municipal administration in Montreal put together a team of professionals to work on a management plan for the protection and enhancement of Mount Royal. The attempt was to adopt this plan in three years (1990), and to include it within the city budget for the fiscal exercise 1991-93. Indeed, the attempt to prepare such a plan was

identified as *"le premier effort de planificaton systématique dans ce domaine depuis le plan directeur des espaces libres de Montréal de 1955"* (Ville de Montréal, 1990: 9).

The preparation of the enhancement plan was guided by the MCM principles of enhancing local democratic participation and assuring better environmental quality (Sénécal, 1997). In other words, the aim was to prepare a plan which would involve all the actors concerned with Mount Royal through a project of partnership and collaboration. To achieve this objective, the city of Montreal's executive committee made three fundamental decisions with regard to Mount Royal in August 1987.

The first was to integrate public consultation within the planning process from the beginning. The second was to adopt a collaborative strategy between the city of Montreal and the municipalities of Outremont and Westmount concerned with the management of Mount Royal. The third was to form a negotiation committee *"comité de concertation"* that included all the actors interested in the protection and enhancement of the mountain, community and citizens groups, various institutions and organizations. This committee would be the principal negotiator interacting with the planning team, with regard to the different technical studies to be undertaken on Mount Royal. The mandate of this committee also included the coordination of a series of dialogues among the different stakeholders (Goyer, 1993). To fully understand the operation of such a collaborative approach, the following section examines the various stakeholders.

7.1.2.2. <u>The Various Stakeholders</u>:

Mount Royal represents a complex institutional and administrative situation. Various actors have different concerns and interests with regard to Mount Royal, the economic, social and/or symbolic merits of the mountain, interests which could generate conflicts between actors. This section presents the different stakeholders and illustrates their roles and interests in managing Mount Royal.

- *The Provincial Government*

After the recession of the early 1980s, the rhythm of redevelopment began to accelerate in Montreal and most of the province of Quebec. To support this development, the provincial government adopted a decentralization strategy with respect to environmental and urban management. The idea was that government should withdraw from detailed local management, and should concentrate on major province wide goals and issues (Trépanier, 1988). To promote this decentralization policy, the government sought to reinforce local governments by allocating more autonomy with respect to local affairs, including environmental management. They assumed municipalities would learn the importance of more coordination between their different agencies and among themselves[67] in order to be more effective.

Despite this attempt at decentralization, the provincial government did not withdraw completely from the urban environment. It made a commitment to invest in environmental protection, as well as public transit and housing. A concrete example of such involvement was the proposal of the Archipelago National Park (Décarie, 1987). The proposal sought to develop an integrated system of parks and open spaces linked by networks of paths and trails. A kind of green thread was proposed to structure this system, starting from the top of Mount Royal, circling it once, then, as a spiral, making another bigger circle along old railways, eventually moving towards the rivers that surround the island of Montreal (Trépanier, 1993).

A collaborative approach was proposed to manage this system, under the leadership of an executive committee. This committee would count on the cooperation of all public property-owners, linking together parks and other institutional properties such as

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[67] In an explanatory note on the 1982 reform, the provincial government admitted that cooperation would be needed among various municipalities in order to achieve a major impact on urban development. A similar conclusion was reached in December 1991 when the inter-ministerial committee on development

universities, schools and hospitals. Users and private recreation services were also expected to cooperate in managing this complex system. The proposed project was made public in October 1984; the anticipated cost of the project was $ 150 million, half to be provided by the provincial government, and the other half by interested stakeholders.

The Archipelago National Park, however, was short-lived. The 1985 provincial elections brought in a new Liberal government, with a differing agenda. It was well known that this new provincial government was cozier than its predecessor to business interests and favored neo-conservative policies such as deregulation and privatization (Trépanier, 1988). The liberal government was also committed to reducing public spending; one of the projects that fell under extraneous and expensive was the Archipelago Park. Studies were terminated in 1986.

The Quebec government's interest in conserving valued natural environments, particularly Mount Royal, was expressed through the adoption of a legal framework for the protection of these environments (e.g., *Loi sur les biens culturels*). Moreover, the Ministry of Culture made yet another attempt to give the Mount Royal Regional Park status in 1993 (Gaudreau et al, 1993). To date, no further actions have been adopted to finalize these attempts.

In truth, and to put the discussion to rest, the Quebec government has little role to play in the direct management of Mount Royal, despite its previous attempt to include Mount Royal in the regional national park system. A collaborative approach that includes various stakeholders has been frequently promoted to manage this proposed status. To support such a collaborative approach, the provincial government has put forth a supposed new deal for local governments during the last two decades, based on more autonomy and responsibility; accordingly, the provincial governmental role became more that of facilitator, and less that of mandator.

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of greater Montreal released a development strategy for Greater Montreal. The 1992 document recognized a real problem of coordination among local institutions and municipalities (Trépanier, 1993).

- *Local Government*

In November 1986, the Montreal's Citizens Movement (MCM), headed by Jean Doré, replaced Mayor Drapeau's Civic Party following 26 years of power. Citizen activists and environmentalists formed a large part of the political base of the MCM that usurped Mayor Drapeau's strangle hold on civic politics. This membership base influenced the program of the MCM in such a way as to promote the democratization of municipal institutions and the participation of the citizens in the decision making process[68]. The MCM program was a reaction to a "very restrictive democracy" within the previous Drapeau's administration (Adam, 1986: 165).

In 1988, the adoption of a "public consultation charter" provided concrete evidence of the new Administration's commitment towards more public contribution to the decision making process (Ville de Montréal, 1988b: 8). The charter also included the creation of the Consultation Office of Montreal, *Bureau de Consultation de Montréal* (BCM), that would be responsible for undertaking any consultative exercise requested by the municipal executive committee, the enlargement of the Fine Arts Museum and the World Trade center, to name but two.

Concern with Mount Royal was expressed in two major initiatives. The first was related to the Green Network Project (*le réseau vert*). Based on the Archipelago project, previously proposed by the provincial government, and consisting of the reclamation of some 200 Km. of railways and hydro-electrical infrastructures it sought to plan several corridors of pedestrian walkways and cycling routes, networks that would connect the various green parks in Montreal (GIM, 1988: 35-36). The focal point of this green web was Mount Royal, and therefore, it would be a priority area to protect and manage in the early phase of the project's implementation. According to Décarie:

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[68] See for example the *Programme du Rassemblement des citoyens et des citoyennes de Montréal* published in 1986 which includes article 1.2 on "participation" and article 8.35 on "planning and participation" that states *"le RCM vise fondamentalement à remettre aux citoyens les pouvoirs de décision quant à l'aménagement de leur milieu de vie"*.

Ainsi serait clairement établie la position dominante du mont Royal au centre d'une vaste toile d'araingnée verte, rejoignant et reliant en continu tous les quartiers et les confins de la ville, en un vaste système sympathique de communication-loisir qui actualiserait son intégration spatiale et sociale au vécu et au tissu urbain ambiant (Décarie, 1988:36).

Consequently, in some respects, yet complementary to the first in a somewhat paradoxical fashion, concern about Mount Royal came also as part of a large initiative to regenerate several urban developmental activities in Montreal. This initiative, entitled *"Aménager Montréal"*, involved reviewing the whole planning framework that regulated the urban development in the city. Clearly, it was also a reaction to several years of *status quo* regarding the planning activities in Montreal[69]. The approach was to divide the city into nine districts and to prepare a master plan for each; the sub-plans would then be integrated in a master-plan for the development of Montreal. The first sub-plan to be prepared referred to the central district of the city, which only partly covered the mountain. The preparation process took two years and used several participatory mechanisms such as round-table discussions and public consultations (Ducas, 1989). Problems would, naturally, emerge due to local interests.

Outremont and Westmount, district municipalities, were also concerned with Mount Royal. Simultaneously with Montreal, the two municipalities included their concerns in their own master plans[70] (*plans d'urbanisme*). The emphasis of Westmount's intervention was on the restoration of Summit Park, whereas Outremont was more elaborate in its approach to management of the mountain. According to Gaudreau and associates:

La municipalité d'Outremont s'engage à conserver et à mettre en valeur le boisé urbain situé sur la colline d'Outremont, à s'impliquer dans un projet de mise en valeur du flanc nord et d'en améliorer l'accessibilité à la population outremontaise (Gaudreau et al, 1993: 10).

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[69] Since 1976, only a few planning interventions took place in Montreal, such as *Opération 20000 logements* and *Revitalisation des artères commerciales* (Ducas, 1989).
[70] Ville d'Outremont, *Plan d'urbanisme*, november 1990; and Ville de Westmount, *Plan d'urbanisme 1990-1995*, June 1990.

Reiterating for the purpose of summation, the city of Montreal showed significant concern with respect to the management of Mount Royal. This concern has been translated into two initiatives: the preparation of an enhancement plan and the elaboration of a master-plan for the central district of Montreal in which Mount Royal is located. A participatory approach was adopted in these two interventions, an approach that was part of the new municipal agenda, politically generated, that attempted to promote democratization and participation at the local level. In the same vein, Outremont and Westmount also displayed their respectively limited concern in managing Mount Royal.

• *The community and Business Sector*

Since the early 1970s, several citizens' groups were formed to preserve open spaces in the Montreal region. They even formed a coalition that presented briefs urging the creation of a Metropolitan Parks Department to implement their proposals (Regroupment, 1973). While these citizens' groups were more obviously successful in preserving specific sites[71], they also helped to increase environmental awareness in vast number of people in Montreal. This created awareness had the effect of spurring for action to manage Mount Royal evolving into the surrounding urban patterns that are now evident (GIM, 1988; *Trames*, 1989).

In 1981, the Centre de la Montagne held several exhibitions and prepared a number of educational programs to encourage people to alter negative behaviors towards the mountain. The center also published a newsletter entitled *Relief*, aimed at increasing public awareness with regard to the protection of Mount Royal[72]. Further, the center invited representatives from a number of municipalities, the major educational as well as religious institutions that occupy the mountain to meet occasionally to discuss common goals for managing the mountain and means to achieve them (Jacobs, 1989).

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[71] For example, these groups succeeded to preserve the Saraguay woodlands and to designate them as a natural area according to the Quebec Cultural Property Act. It was necessary to put pressure on the Quebec Minister of Cultural affairs in this regard (Domon and Bouchard, 1981; Leblanc, 1979).
[72] Interview with Ms. Johanne Groulx, Centre de la Montagne, on July 20,1998.

Protesting against the proposed SNC project in 1986 sparked the perceived necessity for a more collaborative approach to manage Mount Royal. A number of community groups organized themselves in a coalition called Friends of the Mountain Les Amis de la Montagne in April 1986. The coalition regrouped several organizations and individuals, including le Centre de la Montagne, Sauvons Montreal, Héritage Montreal, Loisir-Ville, GIM, Associations des citoyens d'Outremont et du village Durocher, and some residents of Westmount (GIM, 1988:99). It also mobilized more than 6000 individual members following a public exhibition that sounded the alarm for the deteriorated condition of the mountain's heritage.

This coalition aimed at defending the natural character of the mountain by promoting a better understanding of its biological, geological and historic character, a mandate which included opposing any project that might threaten the integrity of the mountain. The coalition also encouraged a conservation strategy for Mount Royal Park, in compliance with Olmsted's plans and principles[73].

To achieve these objectives, the Friends of the Mountain published an important report in October 1986, entitled *"Le Mont-Royal, Fierté des Montréalais"*, to highlight the lack of supportive mechanisms to manage the mountain and the absence of an enhancement plan for it. The document stressed the need for more coordination and dialogue between various municipalities and departments concerned in the management of the mountain. The new municipal authority of Montreal, in power following civic elections of autumn of 1986, received these recommendations positively in response to significant pressure by the coalition.

The business sector, too, joined the effort to manage the mountain. In December 1988, the coalition Friends of the Mountain in collaboration with the Board of Trade and the Montreal Chamber of Commerce, announced the establishment of the Mount Royal

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[73] Interview with Ms. Sylvie Guilbaut, coordinator, Les Amis de la Montagne, on July 22, 1998.

Foundation, a foundation that would assume the responsibility of funding some interventions in protection of the mountain. As a symbolic beginning, the foundation signed a partnership agreement with the city of Montreal to renovate Smith House, an historical building on the mountain.

Concern regarding the management of Mount Royal has spread through a large number of community groups in Montreal, specifically over the last three decades, culminating in the formation of the Friends of the Mountain coalition which was established to coordinate the efforts of these groups. Several visible activities, awareness campaigns, studies, political pressure and lobbying to name a few, have given this coalition a certain amount of credibility as an official speaker and negotiator on behalf of the people with regard to the protection of the mountain. Partnership with the business sector has also facilitated the creation of a fund, the Mount Royal Foundation, to support interventions for managing the mountain.

7.1.2.3. The Operation of the Collaborative Strategy:

For more than two years, the participatory process took the form of three interrelated phases. The first phase focused on the preparation of a preliminary plan by a technical planning team from the City of Montreal. Meanwhile, a simultaneous phase was initiated with various municipalities, community groups and experts concerned with the management of Mount Royal to discuss the guidelines of this preliminary plan. A third phase involved several stakeholders in a formal public consultation before a final plan was presented to the Executive Committee in September 1990.

The municipal planning team included two groups of experts, mainly urban planners and architects, from leisure activities and community development services[74] (SLDC), and from housing and urban development services[75] (SHDU). While the SLDC was

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[74] Le Service des loisirs et du développement communautaire, division aménagement (SLDC).
[75] Le Service de l'habitation et du développement urbain, module de la planification urbaine (SHDU)

responsible for Mount Royal Park, the SHDU concentrated on an overall strategy for the entire territory of the mountain. By September 1988, this team submitted a report entitled *"Orientations préliminaires pour la mise en valeur du mont Royal"* to the Executive Committee of the City of Montreal (Ville de Montreal, 1988a), a report which comprised the main guidelines for the management of Mount Royal.

Concurrently, the planning team was conducting an informal dialogue with some stakeholders to discuss the main orientation in managing Mount Royal, a dialogue which took the form of several round-table discussions. In December 1987, the first dialogue concerned itself with the coordination of the City of Montreal along with important institutional actors holding significant properties on the mountain, namely the City of Outremont, the Université de Montréal and Notre-Dame-des-Neiges cemetery. Later, other institutions joined the process, the Royal Victoria Hospital, McGill University and Mount-Royal cemetery.

One of the results of this dialogue was a partnership agreement[76] signed by the three municipalities of Montreal, Outremont and Westmount in September 1988 to collaborate in the management of Mount Royal, an agreement that formed the basis for developing the "Three Summits" strategy. The three summits refer to the three municipalities of Montreal, Westmount and Outremont (figure 7.5); the strategy aims at protecting, enhancing and opening up the mountain by managing it as an integrated ecosystem.

Simultaneously, informal consultations were held with the general public to include their recommendations in the proposed plan. The municipal team of planners facilitated these dialogues, holding several meetings between May and June 1988, involving more than forty organizations, agencies and community groups interested in the management of Mount Royal, representational of a combined socio-economic interest; the findings of these meetings figured in several city memorandums (Goyer, 1993).

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[76] *Accord de collaboration pour la conservation et la mise en valeur du mont Royal.*

Figure (7.5): **The concept of Three Summits**
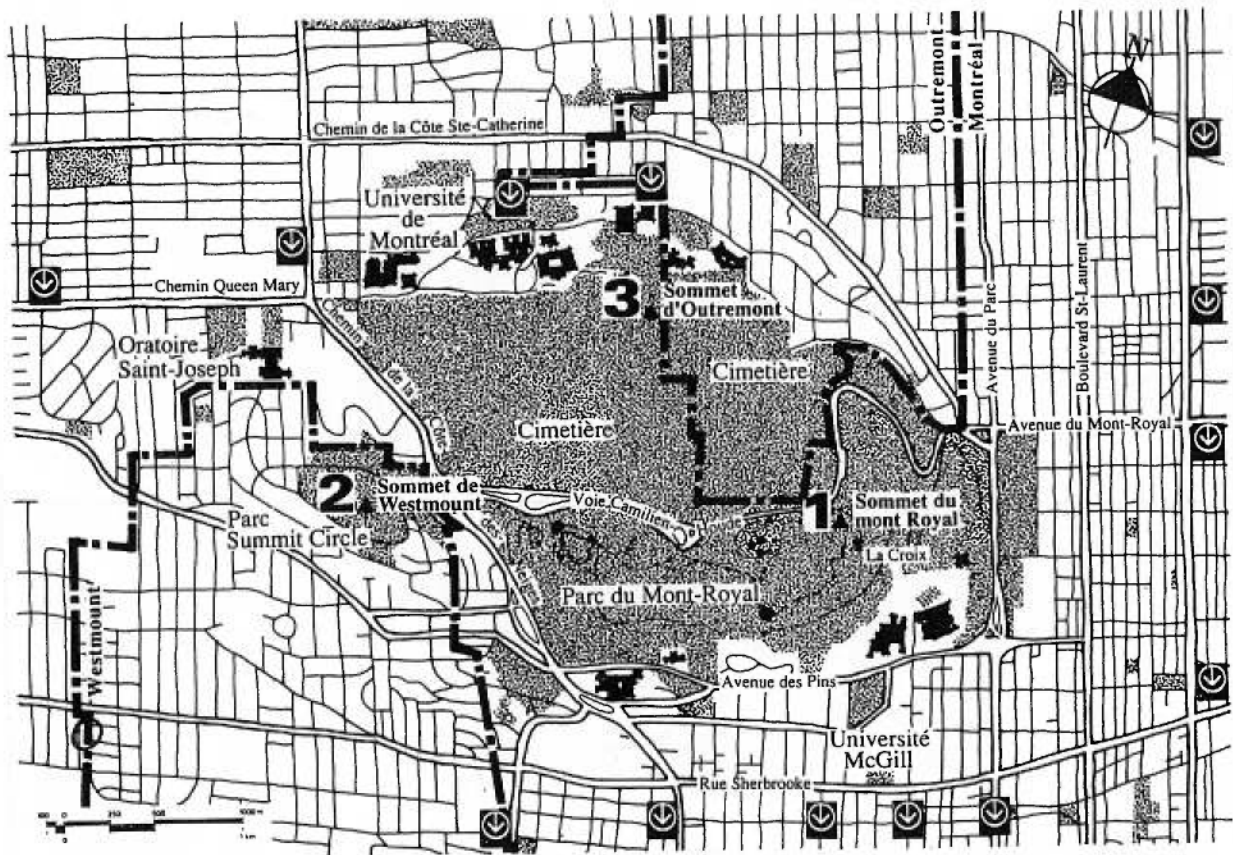
After two years of work, several meetings, roundtable-discussions and more than 20 studies, the planning team submitted its preliminary plan to the Executive Committee *"Plan préliminaire de mise en valeur du mont Royal"* in January 1990 (Ville de Montreal, 1990). The plan focused on four key-aspects related to the management of the mountain: the problem of intervention, an approach to the enhancement of Mount Royal, the management priorities and a plan for implementation. The following provides the findings of this preliminary plan.

The plan emphasized that the diversity of stakeholders made it difficult to manage the mountain as an entity. To overcome this institutional complexity, the plan stressed the necessity of adopting a collaborative approach among various stakeholders, keeping in mind the three municipalities, other institutions as well as community groups.

Conversely, the plan also emphasized the need to limit any negative use of Mount Royal Park among Montrealers[77]. In response, there emerged a decided plan to enhance its value among different users by diversifying activities on the mountain: priority was given to activities with respect to conservation, education, recreation and tourism.

The proposed interventions responded to these priorities; in order to protect the natural ecosystem, the mountain was divided into ecological sectors, based on their ecological value and fragility[78]. In addition, the plan stressed the importance of restoring the historical elements on the mountain, ones that possess significant aesthetic or symbolic value. Furthermore, the plan proposed the construction of a platform at one of the mountain's summits, which could allow a 360-degree observation angle (Ville de Montréal, 1990). All of these proposed interventions followed the plan previously advocated by Olmsted (Zinger, 1990).

The planning team proposed to implement this plan in four phases, three years each, beginning in 1991, an implementation that would require about CAN$119 millions, as presented by the planning team, half of which would be allocated to Mount Royal Park and the proposed infrastructures. All three municipalities, as well as various business and community groups, were asked to contribute to these budget requirements (Goyer, 1993).

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[77] This conclusion is based on a survey conducted by SATOUR and GIM in 1986 in which it was found that 46% of the population within the Montreal region have never visited the mountain (Ville de Montréal, 1990a: 23).

[78] The ecological sectors ranged from high to low conservation priority. These sectors included: "*Zones de conservation prioritaire*" (e.g., forests), "*zones de préservation spéciale*", and "*zones semi-naturelles*" (e.g., areas modified by various human activities) (Ville de Montréal, 1990: 49-51).

In March 1990, the Executive Committee ordered a public consultation to be undertaken by the *Bureau de Consultation de Montreal* (BCM). The purpose of the consultation was to gather the public's opinions regarding this preliminary plan. More specifically, the consultation focused on the concept of enhancement, the principals of planning such as accessibility, uses and development control and the implementation procedures, zoning regulations, schedules, budgets and the like. The aim was to identify the priorities for action and planning related to the enhancement and management of Mount Royal[79].

In September 1990, after nearly six months, the commissioners submitted their report to the Executive Committee of the City of Montreal in a 230-page report with fifty recommendations that questioned the feasibility of the proposed preliminary plan for managing Mount Royal. The emphasis was on several aspects such as the principles of management, the proposed interventions and the implementation process itself.

The most significant recommendation was to reject the objective proposed by the planning team, namely increasing the social profitability of the mountain by tripling the area in social use and diversifying the activities on it (GIM, 1988: 96). Instead, the commissioners recommended that the primary focus of management should be geared towards the conservation of Mount Royal[80]. In the same vein, the report states:

> *Cette orientation prioritaire de conservation devienne le critère fondamental dans le choix des usages, des principes directeurs, des interventions et des moyens pour l'ensemble de la montagne* (BCM, 1990a: 48).

7.1.2.4. <u>Achievements for Managing Mount Royal Mountain</u>:

The plan for managing Mount Royal was adjusted to the recommendations of the BCM's commissioners. However, little has actually been done to manage the mountain since that

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[79] As announced by the executive committee during its information session on January 17, 1990 with regard to *"Décision du Comité exécutif relative à la consultation publique sur le projet de mise en oeuvre du mont Royal (objets, procédure, et échéancier)"*

[80] Recommendation No. 1, 3, and 4.

time. While the city of Montreal adopted the adjusted plan in 1992, Outremont and Westmount only deployed limited efforts to prepare their action plans in this regard[81]. In addition, the new municipal administrations in Montreal and Outremont since 1994 have changed their political priorities with regard to the management of Mount Royal. Given that very limited funds were available to go ahead with the plan as a result of the economic recession of the early 1990s, nevertheless, considerable environmental issues have been addressed.

The most significant achievement was to recognize collaboration as a feasible strategy in the management process of the mountain. The institutional complexities of the Mount Royal required that the different stakeholders meet in order to work out a common vision with regard to an appropriate management strategy; various discussions and dialogues that took place within this process were an attempt to fulfill this goal[82].

Several agreements recognized collaboration as an appropriate strategy to manage the mountain; there was an inter-municipal partnership agreement, signed in September 1989 by the three municipalities of Montreal, Westmount and Outremont, and Les Amis de la Montagne to protect and manage the mountain collectively. In addition, the city of Montreal and the Centre de la Montagne, a non-profit organization, also signed an agreement in April 1989 through which the center became responsible for all communication activities related to the management of Mount Royal. Such activities included the preparation of several exhibitions and the dissemination of a newsletter related to Mount Royal Park.

These agreements illustrate attempts to coordinate efforts amongst the principal actors concerned in the management of Mount Royal, wherein the City of Montreal played a significant role. This role was also in evidence as the City adopted several legal decrees to

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[81] Ms. Sylvie Guilbeault, Fiends of the Mountain. Personal communication on July 20, 1998.
[82] Ms. Nathalie Zinger, WWF Canada and former coordinator of Les Amis de la Montagne. Personal Communication on July 28, 1998.

support the special status of the mountain[83], and to promote consultation as a key component within the planning process[84].

Subsequently, this initiative generated a significant number of studies related to Mount Royal itself; added to the enhancement plan, more than 20 studies were prepared which focused on its functional aspects[85], environmental characteristics[86] and management approaches[87].

During the last five years (1993-97), most of the achievements of the City of Montreal in relation to the mountain have concentrated on several restoration projects. For example, the belvédère Camillien-Houde was restored in the summer of 1995 and various stairs including Trafalgar, Drummond, and du Musée, as well as a considerable part of Olmsted road, were restored during this period (Ville de Montréal, 1998).

Recently, an ice storm troubled Montreal in January 1998, the most damaging since the ice storm of 1961. The storm caused an estimated 14 million dollars[88]. Further, almost 80% of the trees on the mountain have been damaged (Jacobs, 1998). The Amis de la Montagne reacted to this crisis by organizing a campaign to inform the public about the severity of the situation, and they invited the business sector to assume its social responsibility to cover the expenses of replanting the trees on the mountain. In February 1998, the Friends of the Mountain announced, via a press conference, the mobilization of more than a million dollars donated by the business community of Montreal to this end[89]. The City of Montreal also renewed its interest in the collaborative management approach. While plantation works are underway with the support of the provincial government, the city is

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[83] *Comité consultatif sur la protection des biens culturels* (CCPBC), 1987.
[84] *La consultation publique, un service aux citoyens et aux citoyennes* (Ville de Montréal, 1988: 22)
[85] Denault (1988); Transurb (1989).
[86] Boivin and Bouchard (1988); Centre de la Montagne (1988); Michaud (1989).
[87] Trépanier (1988).
[88] The Gazette on January 22, 1998.
[89] CTV covered the press conference and presented it on Pulse News on February 19, 1998. Mr. Peter Howlett, head of the friends of the mountain, and Mr. Devin Core, developer, announced such information and confirmed that "the mountain belong to everyone in Montreal, so everyone should contribute in its conservation".

currently negotiating other collaborative projects with McGill University and Victoria Hospital[90].

To summarize, the case of Mount Royal amply illustrates a deteriorated valuable environment, one which is widely perceived as a defining aspect of Montreal's urban landscape. Previous attempts to manage the mountain had, in fact, worsened its environmental condition. This context, coupled with the strong political will of the new municipal administration in 1986, helped to initiate a collaborative strategy to salvage the management intentions of Mount Royal. Several stakeholders were involved in the collaborative process, including three municipalities, public institutions and numerous community groups. Meanwhile, the process took the form of public consultation, but despite the preparation of a plan to manage the mountain, little of substance has been achieved since its adoption in 1992. Recently, the ice storm that hit Montreal revived the commitment of various stakeholders to renew the collaborative management strategy with respect to Mount Royal.

7.2. ANALYSIS OF THE CASE STUDY

In this section, the analysis of the Mount Royal case follows the pattern defined in chapter six. The emphasis reflects the proposed conceptual framework in this thesis, and focuses on three interrelated key-aspects that determine the effectiveness of collaborative management strategies: the commitment for collaboration; the process of collaboration; and the adaptation of the institutional arrangements in place. The analysis uses the data collected from several sources by the three methods identified in section (6.4): documentary information, a survey and semi-structured interviews. Appendix B includes the survey questionnaire, the full survey results, an interview plan and a list of interviewees in Montreal.

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[90] Interview with Mr. Daniel Chartier, *"Service des Parcs, Ville de Montréal"*, on July 28, 1998.

7.2.1. **Commitment to Collaboration**

The commitment from various stakeholders is essential if collaborative management is to work. This section examines the commitment of the community in Montreal and its perception of the political commitment of the municipalities with regard to the collaborative approach to the management of Mount Royal. A significant part of the analysis is based on the results of a recent research survey (n = 60) conducted in Montreal[91] (May-July, 1998).

7.2.1.1. <u>Community Commitment</u>:

For management to be collaborative participants from the community must acknowledge the need for change; behavioral changes within the community of Montreal reflect a transformation and commitment to collaborative strategies. Examining the relationship between environmental attitudes and environmental behavior with regard to Mount Royal is necessary in this regard.

- *Environmental Attitudes about Mount Royal*

In general, people in Montreal are concerned with the environment; significant majority (92%) of the respondents confirmed they held such an attitude about the environment. Further, all the respondents agree they have a responsibility to future generations.

This general environmental attitude reflects a significant awareness about Mount Royal[92], wherein nine out of ten Montrealers are concerned about the mountain. While more than two out of four (56%) perceive it as a significant landmark within the city, another third (38%) stress its importance as a great place for recreation. Despite such importance, 88%

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[91] See Appendix (B) for the full results.

[92] Debarbieux and Marois (1997) also support this statement in a recent study about Mount Royal. Using it as an example, the two researchers examined the significance of the mountain in different ways through history, and how the general population in Montreal is concerned with its value.

of the respondents expressed a need to manage the mountain, and appear to be the result of a perceived deterioration in the mountain's condition during the last ten years. Four out of five respondents perceive waste (38%), the loss of natural habitat (30%) and soil erosion (22%) as major problems associated with the mountain's deterioration.

- *Environmental Behavior towards Mount Royal*

A striking majority (93%) of the respondents agrees that the general population is responsible for managing Mount Royal and that they can accomplish this by pressuring various authorities to act (39%), changing their own behavior (34%) or getting other people to change their behavior (20%). Only 7% of the respondents deny their responsibility, mainly because they believe that the general public has no idea how to protect the mountain.

When asked what should they do to manage their mountain, three out of five reported that others would contact a governmental agency (33%) or ask the support of political leaders (25%). On the other hand, one third of respondents agree that the mountain's problems should be solved collectively with other friends and community members. Women (46%) favored such collective action more than men (39%). Only one in twenty (5%) preferred to solve the problems of the mountain individually!

The media play a dramatic role in shaping the environmental behavior of the people in Montreal, particularly towards Mount Royal. Their most important role is to disseminate information that could support the management of the mountain. Two of five (43%) respondents reported that they usually get information on the different activities of the "Friends of the Mountain" through the media. Another 37% of respondents learned of the government's activities with regard to the protection of the mountain from the media, however, only 10% of the respondents learned of the new legislation to protect the mountain from the media.

Television seems more significant than newspapers and/or periodicals in this regard. The results of a survey[93] published recently in *La Presse* confirmed this statement by pointing out that

> *La télévision est le média qui répond le mieux aux besoins d'information des Québécois (69%), ce qui inclut les chaines spécialisées, par comparaison à d'autres types de média comme les magazines et les journaux quotidiens* (La Presse, 1998: B2).

In sum, the findings of the research point out that there is a concern with the environment in Montreal, particularly as it pertains to Mount Royal, this mountain that is perceived as both a city landmark in the city and a place for recreation. Such importance, coupled with a perceived deterioration in its condition, generates a willingness to support conservation management strategies. This attitude is not translated, however, into collaborative action. Instead, there is significant reliance on the political authorities, governmental agencies or politicians, to manage Mount Royal. Nevertheless, there are signs of promising behavioral changes towards more collaborative approaches in managing Mount Royal. Further evidence is presented in the following sections in this regard and the media, particularly television, plays a significant role in supporting such change.

7.2.1.2. Perceived Political Commitment:

If management is to be collaborative, government must demonstrate leadership and commitment to the idea of sharing in the decision making process. While interview respondents felt that government's support of managing Mount Royal was stronger than it had ever been, they believed political commitment was still limited with respect to collaborative management strategies.

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[93] Through telephone interviews, CROP-EXPRESS conducted the survey between 11 and 18 March 1998 for Le Conseil de Presse du Québec, the Montreal newspaper *La Presse*, and the *Radio-Canada* organization. Results were published in *La Presse* on Saturday April 18, 1998, pp.B2.

Two of five respondents (39%) agree that governmental authorities, provincial and municipal, are concerned with the deterioration of Mount Royal. Only 17% of the respondents disagree with such a concern. While most of the respondents (78%) felt that the provincial government plays a neutral role, it was not clear for a striking 44% of respondents how municipal authorities manage the mountain. This hesitation was also emphasized when 51% of the respondents did not know if the government had done enough to protect Mount Royal. While a third (33%) stated that the government did the minimum, another 16% of respondents negate any action by the government to manage Mount Royal. Indeed, 38% of respondents are pessimistic, compared to 27% who are optimistic with regard to any improvement in the role of the governmental authorities. Such pessimism is mirrored by two of five (38%) respondents who believed that the environmental conditions of the Mount Royal had gotten worse in the previous five years. Only 12 % of the respondents affirmed that conditions had improved.

These perceptions place some doubt on the commitment of the political authorities in Montreal to support collaborative management of Mount Royal. Although these authorities demonstrated leadership in initiating a collaborative process to manage the mountain, it seems that the perception of political commitment differs. The following sections examine such negative perception.

7.2.2. The Process of Collaboration

This section examines the planning process as related to the management of Mount Royal, and seeks to discover the balance of power amongst different stakeholders in order to explore how collaborative management can work more effectively. Two aspects characterize this balance: access to the process and sharing of decision-making (Berkes, 1994; Borrini-Feyerabend, 1996; Innes, 1996).

7.2.2.1. <u>Access to the Process</u>:

Effective collaborative management requires that all interested and affected parties have access to the process and/or be invited to participate. This section gives two interrelated aspects of access: the representation of the stakeholders' interests within the collaborative process; and access to various resources, including funding, training and information.

- *Representation of the Stakeholders' Interests*

Inclusive representation of interests is a key condition for effective collaborative management. In Montreal, most of the interested and affected parties were allowed to participate in the collaboration process. However, this representation mainly took place during the informal discussions with the planning team and/or during the consultation process related to the preliminary plan. The question remains as to whether the involved actors and their interests were represented effectively in this collaborative process for managing Mount Royal.

The City of Montreal took the lead role through its municipal planning team in this collaborative process. This leading role mirrored the provincial government's objective of devolving more responsibilities to the local level, and reflected the mandate of the new municipal administration of Mayor Doré that promoted participation and democratization in its political agenda. While this satisfied both the interests of the provincial and municipal governments, it did not satisfy the community representatives.

The planning team, comprised of planners, architects and landscapers, fulfilled a large part of its mandate, particularly preparing the preliminary plan and supporting it during public consultation. However, several individuals and community groups criticized the composition of the team during the consultation process, asking if this team adequately

provided the required expertise[94] in natural heritage and restoration of natural parks within the urban fabric (BCM, 1990b).

Further, most of the stakeholders were represented during the public consultation; each actor was allowed to submit a document to the Bureau de Consultation de Montréal (BCM) in which its interests were represented. Among the stakeholders represented in this consultation, there were community groups[95], professionals groups[96] and governmental agencies[97]. The City of Montreal considered the consultation an adequate participation mechanism for all stakeholders to express their interests. However, the effectiveness of the consultation was hindered by several factors including: the lack of time allocated to the consultation process, the ambiguity in defining the challenges and objectives of the consultation, and the confusion created by the unclear identity of the actors involved in the process (Goyer, 1993). Meanwhile, the media provided an additional parallel channel to the individuals and experts to publicly express their opinions[98].

There remains a good deal of uncertainty concerning the representation of stakeholders' interests within the planning and management process for Mount Royal. The following section examines the question of access to resources, which also reflects a certain perspective of the balance of power within the process (Berkes et al, 1991).

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[94] According to Goyer (1993), the criticism came mainly from Jean-Claude Marsan, architect and dean of the school of planning at the Université de Montréal during the consultation process, and Phyllis Lambert, architect and director of the Canadian Center of Architecture.

[95] Several community groups presented a report to the BCM such as the Association des citoyens d'outremont, regroupement des résidents du Quartier Milton Parc, Association des résidents et résidentes du Plateau Mont-Royal, les Amis de la Montagne, and Héritage Montréal.

[96] Examples of the professional groups represented were the Ordre des Architectes du Québec and the Association des architectes paysagistes du Québec

[97] For example, the Federal Ministry of transportation submitted its document to the BCM in 1990.

[98] For example: Jean-Claude Marsan (1990). "Le plan du Mont Royal est à reprendre de A à Z". *Le Devoir*. May 31 and June 1st, 1990; Irene Cinq-Mars and Philippe Poullaouec-Gonidec (1990). "La mise en valeur du Parc du Mont Royal: Le risque d'un débat public mal engagé". *Le Devoir*, August 6, 1990.

- *Access to Resources*

An effective collaborative process will ensure participants are provided sufficient resources including funding, training and information. Funding received from the City of Montreal to support the planning process might have been sufficient, based on the argument that other stakeholders must be prepared to commit their own resources to the collaborative planning efforts[99]. However, other participants complained that funding was inadequate, that additional resources needed to be injected into the process by the City of Montreal. For example, there was no funding to conduct much needed, in-depth socio-economic studies and analyses related to the frequency of visitors and the uses of Mount Royal[100].

Another significant resource gap was the severe lack of training of the municipal planning team members. Training for this process consisted only of a brief series of seminars on interest-based negotiation at the outset of the process. Much more training in negotiation, as well as training in strategic and participatory planning, group dynamics, consensus-building and natural heritage conservation should have been a requirement for team members (Poirier and Versaille, 1992). This need was obvious, particularly since the expertise of the municipal planning team was questioned several times during the consultation process. In this regard, Goyer pointed out that:

> *C'est aussi en corollaire l'absence de culture en matière de participation qui détermine la capacité d'intervention des participants, particulièrement en ce qui concerne les membres de la fonction publique. Appelée pour la première fois à participer à un processus d'audiences publiques, l'équipe de planification du mont Royal ne possède ni la culture professionelle, ni les habitudes nécessaires à l'explication et à la validation de leurs propositions dans un contexte qui s'apparente à plusieurs égards à un processus juridique d'évaluation* (Goyer, 1993: 117-18).

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[99] Ms. Lucie Lafortune and Mr. Daniel Chartier, Ville de Montréal. Personal communication in July 1998.
[100] Ms. Johanne Groulx, *"Centre de la Montagne"*, and Ms. Sylvie Guilbault, *"Les Amis de la Montagne"*, Personal communication in July 1998. The point was that the preliminary plan was based on a limited number of studies, and some parts were totally relying on the contested SNC study. The lack of financial and human resources prevented the generation of an adequate information.

More problematic still, the activities of several community groups such as Les Amis de la Montagne were mainly based on voluntary efforts, efforts that were sometimes difficult to sustain[101]. Moreover, little funding or expert assistance was received from the provincial government; the ministries of the Quebec government apparently lacked both the expertise and institutional resources to assist effectively in the collaborative planing process[102].

To sum up, the City of Montreal attempted to promote a collaborative process in which all stakeholders could participate. There was doubt, however, about the representation of the different interests of various stakeholders in this process. Critics of the municipal planning team and the effectiveness of the consultation itself comprised a large part of the evidence to support the critics' stand. Interests' representation was clearly hindered by the lack of access to resources, particularly funding and training. While the lack of funding prevented the preparation of further in-depth, socio-economic studies, particularly regarding the use of Mount Royal, the absence of training weakened the municipal staff in terms of knowledge and experience with respect to participation and consensus building.

7.2.2.2. <u>Sharing of Decision-making:</u>

The effectiveness of collaborative management is strongly related to sharing in the decision-making process, one that involves all stakeholders, meaningfully, while participatory design and consensus building are two related aspects that reflect the sharing of decision-making.

In Montreal, limited number of participants was involved in the design of management initiatives. While environmental groups put pressure on Doré's municipal administration to place the management of Mount Royal as a priority on its political agenda, limited action

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[101] Ms. Nathalie Zinger, former coordinator of Les Amis de la Montagne, personal communication on July 28, 1998. According to Ms. Zinger, it was difficult to find someone who could replace her in 1990 when she wanted to leave her position and concentrate on her graduate studies.

was taken to involve these groups in the selection of the municipal planning team members or in the design of the collaborative strategy. Nevertheless, a large number of them did participate in the public consultation process, through which municipal authorities aimed at building consensus about the preliminary enhancement plan of Mount Royal.

Several limitations to this consultation can be cited in review. On one hand, too much time was spent on informative presentations, creating an environment of frustration and diminishing the focus on substantive issues. On the other hand, the commissioners made the final decisions about the enhancement plan at the end of the consultation process, leaving severally limited opportunities for collective decision-making by all the stakeholders.

Between March and September 1990, the BCM conducted a consultation process that included three phases. First, an information phase began in April and consumed 40 days. The goal was to share and disseminate numerous reports and documents related to the enhancement plan such as a volume of the *Revue Trames* entirely on Mount Royal[103], and various administrative documents including copies of the partnership agreement and the plan document.

Secondly, a phase of public hearings, question and presentation forums giving voice to various organizations and individuals concerned in the subject took place. The planning team, members from the SHDU and SLDC, first presented the different components of their plan to enable audiences to understand these various parts. Then, seven sessions were held in the period between May 22-25 in which more than 60 reports were submitted; 80 organizations and individuals asked questions and/or presented their arguments.

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[102] Ms. Marie-Odile Trépanier, Institut d'Urbanisme, faculté d'aménagement, Université de Montréal, personal communication in March 1997.
[103] Volume number 2 (2).

Finally, the commissioners were responsible for analyzing the arguments provided by different interest groups, audience and the planning team. In this phase, the commissioners also consulted a number of experts[104] on various issues, particularly the legal status of the mountain, its ecological merits and the heritage of Olmsted.

Decisions were made by the commissioners at the end of the consultation process based on their own analysis of the situation; most of the proposed interventions by the planning team were rejected. Among the rejected interventions, there were, for example, the constructions of a new observation platform, a ring road and a new stair in the axis of Duluth Street[105]. The commissioners recommended minor interventions related to the restoration of the natural milieu and the restoration of Beaver Lake, only.

Clearly, this consultative process provided little to involve different stakeholders in the decision-making process. The consultation policy adopted by the municipal administration in Montreal distinguished between a negotiation phase and a consultation phase with regard to the planning process wherein the negotiation phase referred to a dialogue among the actors as a part of the evolving planning process. The consultation, on the other hand, was a phase in which the public was consulted about a proposed plan, but at the end, the public was not the decision-maker. The question remains whether the commissioners accommodated different views and ideas in their final decisions about the enhancement plan, or not.

There is evidence that the consultation focused principally on resolving issues between the City of Montreal, represented by its planning team, and the green coalition and its affiliated groups and individuals, and not necessarily on the interests of collaborative management of the mountain (Goyer, 1993). In failing to fully involve the stakeholders in,

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[104] The BCM consulted with six American experts in the management of natural environments, particularly the parks designed by Olmsted (Peter Rothschild, landscaper; Nicholas Quennel, president of the National Association for Olmsted Parks; Tupper Thomas, director of Prospect Park in New York; Elisabeth Ann Barlow Rodgers, director of the Central park in New York; Ellen Lopsey, planner; and Frances G. Beatty, landscape architect in the Historic Parks Planning and Development Unit in Boston (BCM, 1990: 10).

and to clarify and publicly articulate the rationale for their final decisions, the BCM's commissioners reverted to an exclusive approach to decision-making, opposing the very principles of an effective collaborative management.

7.2.3. Adaptation of the Institutional Arrangements

Mount Royal represents a complex institutional and administrative situation, a complexity which, to be fair, creates a context of some uncertainty with respect to the proper strategies for managing the mountain. If collaborative management is to be effective, the institutions in place must be adaptive to this uncertainty. Adaptation refers to providing a supportive legal framework, a coordinated administrative structure and allocated financial resources (Ostrom, 1990; Berkes, 1991).

7.2.3.1. A supportive legal framework:

Several pieces of legislation and decrees provide a legal framework to manage Mount Royal. These decrees, however, were limited; either they were geographically limited, within one municipality, or their content was limited such in the case of zoning procedures within La loi sur l'aménagement et l'urbanisme. A significant improvement was made when the Québec Government adopted La loi sur les biens culturels.

This Cultural Properties Act gave the municipalities the capacity to identify valued sites/environments and to protect them (Gaudreau et al, 1993). In August 1987, the municipal council of Montreal adopted decree # 7593, in accordance with provincial legislation. This decree considered the mountain as *"site du patrimoine du Mont-Royal"*, and its aim was to preserve the site as a valuable national heritage for current and future generations in Montreal (GIM, 1988). The territory designated went beyond the site of Mount Royal Park, 15% of the total territory, to cover the totality of the mountain

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[105] Recommendations No. 22, 23, 24, 30, and 31.

including various public institutions as well as the private properties[106]. Gaudreau and associates stated that:

> *En plus de marquer son caractère culturel et d'étendre le territoire du mont Royal, cette mesure visait particulièrement à protéger l'architecture exceptionnelle de certains bâtiments et à permettre la protection du paysage culturel d'une grande valeur, tel celui de la montagne* (Gaudreau et al, 1993: 8).

The City of Montreal also adopted a complementary decree (#7451), the purpose of which was to protect the entire flora, particularly the trees, on private properties within the City's boundaries. Similar legislation was also adopted by the city of Outremont in May 1989, to protect the area of the mountain within its boundaries[107].

This proposed legal framework was not enough to manage the complexity of the institutional context. While it provided some articles to protect the territory of the mountain, it did not provide a mechanism to commit various stakeholders, public, private, and others, to collaborate in managing Mount Royal. Gaudreau and associates studied the existing legal framework and concluded that *"il n'offre pas beaucoup d'encadrement formel pour la coopération institutionnelle"* (Gaudreau et al, 1993: 17-22). Although the study provided several suggestions to support a collaborative approach for managing the mountain, no adaptation of the legal framework has been enforced to date.

Overall, the legal framework for managing Mount Royal remains ineffective and provides little or no support for collaboration between various stakeholders. The legal framework in place should clearly define the rights and responsibilities of various stakeholders in managing the mountain, but fails to do so.

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[106] The Comité consultatif sur la protection des biens culturels (CCPBC) illustrated this holistic approach of such legal protection (GIM, 1988:107): *"la constitution d'un site du patrimoine protège plus adéquatement le cadre bâti environnant le parc du Mont-Royal, que les aménagements paysagers du parc"*.

7.2.3.2. <u>Coordinated Administrative Structure</u>:

Several arrangements arose in response to the institutional complexity related to the mountain. These institutional arrangements were structured on various levels, among and within different stakeholders. The main idea was to manage the mountain as an entity, thus avoiding any conflict that could arise by the segregation of the Park from properties carried by Outremont, Westmount, the public institutions and private owners (Gaudreau et al, 1993).

Partnership agreements were a significant way to allow formal coordination among the various stakeholders. The cities of Montreal and Outremont signed the first collaborative agreement for the protection and the enhancement of Mount Royal in July 1987. The City of Westmount, Les Amis de la Montagne, and other public institutions joined them later. The "*Accord de collaboration pour la conservation et la mise en valeur du mont Royal*" tied the relationships between these different stakeholders. According to Gaudreau and associates, this partnership agreement reflected the principles of integrated planning and collaborative management (Gaudreau et al, 1993).

Following the signature of the partnership agreement, the Comité de Concertation Intérimaire (CCI) evolved as the main institutional arrangement responsible for the collaborative management of the mountain. The members of this temporary negotiating committee represented the stakeholders who signed the partnership agreement, including representatives of the three municipalities, the major public institutions and the Amis de la Montagne coalition.

The CCI committee played a key role during the planning process, studying the preliminary plan before submitting it to the BCM for consultation, and providing a forum

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[107] "*Réglement 1000 concernant la protection des arbres sur la propriété privée et publique dans le territoire de la Ville d'Outremont*".

to discuss the various perspectives of different stakeholders (Goyer, 1993). While it lacked a decision-making capacity, its members made significant contributions and provided feedback to the planning team on earlier drafts of the proposed enhancement plan[108].

After the consultation, the activities of the CCI committee were dramatically reduced during the period 1990 to 1992. This time represented the period between the submission of the BCM's report in September 1990 and the adoption of the final plan by the City of Montreal in December 1992. During this period, stakeholders waited for a common project to guide their actions. Gaudreau and associates pointed out that:

> La volonté des partenaires réunis dans cette démarche de planification concertée était en attente. Attente d'un projet commun qui allait guider leur action, attente de principes qui devaient désigner le rôle de chacun et permettre d'en discuter concrètement les règles du jeu (Gaudreau et al, 1993: 9).

It was expected that the CCI committee would gain a permanent advisory status after the adoption of the Mount Royal Enhancement Plan[109], an expectation based on the recommendation of the BCM commissioners to create a new institutional arrangement that would coordinate all the implementation aspects of the management plan[110]. Such an arrangement would take the form of a permanent committee and would include various stakeholders' representatives as well as experts in the conservation of valued natural environments; nomination for membership would be assumed by the city of Montreal[111], however, no concrete project or proposal emerged and permanent status has not be conferred to date. Absence of strong leadership to guide the process was one of the reasons for such failure. Gaudreau and associates pointed out that:

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[108] Ms. Nathalie Zinger, director of WWF Canada and former coordinator of les Amis de la Montagne. Personal communication on July 28, 1998.
[109] The members of the CCI committee met for the last time when the city of Montreal presented its final version of the plan in 1992.
[110] Recommendation No. 48.

Les membres du CCI firent acte de présence durant la présentation de la version finale du plan, mais la motivation n'y était plus, l'intérêt s'étant déplacé vers l'autre mandat du comité, soit la mise en place d'une structure permanente afin de relancer la concertation. Toutefois, en l'absence d'un leadership affirmé, cette transformation du Comité se fait toujours attendre (Gaudreau et al, 1993: 23-24).

Limited evidence has been found to indicate a continued coordination among stakeholders since 1992 because of the rise of conflicts with respect to the proper action strategies and priorities. Goyer stated that:

Malgré les démarches entreprises en ce sens par l'équipe de la Ville de Montréal, la diversité des intérêts poursuivis continuent d'être un important facteur de perturbation dans la défénition d'une stratégie d'action (Goyer, 1993: 116).

Restoration is a significant example of such lack of coordination; the three municipalities failed to prepare a unified procedure before allocating a restoration permit for any building or property located on the mountain. Gaudreau and associates pointed out that:

Il n'existe toujours pas de critères de restauration et d'insertion clairs et connus de tous (résumé du règlement, des principes et critères, du chemminement de dossier, de la procédure, etc.); ... les projets continuent d'être élaborés à la pièce (Gaudreau et al, 1993: 9).

At another level, the City of Montreal created a new position of coordination within the existing institutional structure. An "administrator" of the Mount Royal Park was appointed in August 1987 to work with the planning team to develop a strategy for managing the mountain (Ville de Montréal, 1990: 4). Its mandate also included coordinating the interventions of various municipalities and different agencies, for maintenance, animation, exploitation and the like, and implementing a new legislation for the protection of trees on the site (GIM, 1988: 98). This appointment was an important step towards the creation of a single administrative entity to manage Mount Royal Park[111] (Ville de Montréal, 1992: 55).

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[111] Recommendation No. 49.
[112] This appointment also confirmed the importance given by the City of Montreal to the mountain as a valued natural environment within the urban setting.

The lack of allocated resources, a budget, and of an experienced technical team, however, hinders the effectiveness of the administrator (Sénécal, 1997). Continuous conflicts between several departments in the city such as the Public Works and Parks department, made it difficult to sustain the coordinating position within the city's institutional structure. In this regard, Trépanier and associates stated that "*Le contexte administratif montréalais se charactérise par les cloisonnements et la difficulté de concertation interservices*" (Trépanier et al, 1990: 176).

Currently, the responsibility of managing the mountain is once again divided among the three municipalities, the public institutions, and the private owners. At the city of Montreal, the department of Parks (*Service des Loisirs et Parcs*) is assuming the management responsibility of its territory, while in Outremont and Westmount this responsibility is assumed by their urban planning departments. Further, each of the public institutions is managing its property, including the Université de Montréal, McGill University, and Royal Victoria Hospital[113].

Suffice it to say, coordination among the different stakeholders was necessary to respond to the institutional complexity of Mount Royal. By signing formal partnership agreements, creating a negotiation committee and appointing a coordinating anchor, coordination among stakeholders was achieved during the planning process. However, less coordination efforts were deployed when the proposed enhancement plan for managing Mount Royal was ready to be implemented. The lack of leadership and the emergence of conflicts on priority actions hindered the sustainability of these efforts and, in turn, the effectiveness of collaborative management.

7.2.3.3. Allocated Financial Resources:

Sufficient financial resources are an essential ingredient to sustain any collaborative management process. These resources are required to support the institutional

arrangements in place, ensuring the necessary investments are allocated to manage the mountain. The availability of resources would also provide local people with enough confidence to invest in collaboration activities.

The final plan, which was adopted by the City of Montreal, suggested that $119 million were required over a 12-year period (1991- 2002) to implement several recommended actions for the enhancement and management of Mount Royal. Half of this amount, about $ 60 million, were expected to be allocated to Mount Royal Park, and the second half to other parts of the mountain (Ville de Montreal, 1992). Indeed, the City of Montreal committed itself to annually allocate an amount of $ 5 million for managing the park, while the other $ 60 million were expected to be assumed by Westmount, Outremont, the Mount Royal Foundation and the other public institutions (Goyer, 1993). These promises have never been kept.

Table (7.2): **Expenses on the restoration activities implemented in the period 1991-98**

ELEMENTS	AMOUNT ($Millions)
• The Chalet and its Platform	3.7
• The stairs	1.2
• Camillien-Houde Platform	1.3
• Walls and Fences	0.5
• Drainage	2.5
• Plantation	1.2

Sources: *Service des Loisirs, parcs et développement Communautaires*

The budget allocated to the Mount Royal Park during the last 8 years is clear evidence of breaking promise. During the period 1991-98, the City of Montreal has accomplished considerable work related to the management of the Mount-Royal Park. For example, 11 thousand trees in addition to 232 thousands small plants were installed in the Park[114]. Although the City spent more than $10 million towards the management of the Mount Royal Park (table 7.2), this amount is far from the promised spending of $5 million

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[113] Mr. Daniel Chartier, Service des Parcs, Ville de Montreal. Personal communication on July 22, 1998.
[114] Interview with Mr. Daniel Chartier, Service des Parcs, Ville de Montreal, on July 28, 1998.

annually. A review of the detailed budgets, which the Service des Parcs allocated to Mount Royal Park in 1991-93, confirmed this statement (Table 7.3). Table 7.4 also shows the fluctuation of these expenses over the period 1991-98.

Table (7.3): **Detailed Amounts allocated to the Management of Mount-Royal Park (1991-93)**

DATE	ELEMENTS	AMOUNT (CAN $)
1991		
April	Restoration - Phase II: the Chalet sector	2 637 607.00
August	Olmsted Road (*between Smith house –Chalet*)	793 092.00
November	Professional services (Drainage)	5 000.00
November	Professional services (Soil Erosion)	15 000.00
	• *Sub-Total*	**3 450 699.00**
1992		
May	Professionals services (Archeological studies)	5 000.00
May	Professionals services (Engineering Works)	5 000.00
June	Renaturalization works	141 400.00
June	Preliminary planning works	250 877.00
December	Professionals services (Drainage Design)	40 175.00
	• *Sub-Total*	**442 452.00**
1993		
February	Plantation Works	298 100.00
March	Professional services (Circulation Signs)	143 823.00
June	Restoration of the *sentier de l' Escarpement*	722 742.00
June	Finalizing the drainage works	629 660.00
June	Professionals services (Stair design)	161 854.00
October	Complementary drainage works	362 514.00
	• *Sub-Total*	**2 318 693.00**

Source: "Service des loisirs, des parcs et du développement communautaire; Module de la Planinfication et de l'aménagement du réseau des parcs".

These numbers provide significant evidence that there was wide fluctuation in spending on the management of Mount Royal Park over recent years. While expenses were approximately three and half million in 1991, they dropped to less than half a million in 1992, and then increased to two millions in 1993. Such fluctuations can be seen to have occurred as a result of changes in political commitment over the years, reflected in funding variations to support the institutional arrangement in place.

Table (7.4): **The Fluctuation in the Financial Resources Allocated to**
Mount Royal Park in the period 1991-98.

Year

1991	1992	1993	1994	1995	1996	1997	1998
3450699	442452	2318693	2839462	2311000	1607700	292000	631500

Amount ($)

Source: *"Service des loisirs, des parcs et du développement communautaire; Module de la Planification et de l'aménagement du réseau des parcs".*

So too, the lack of funding from the other stakeholders, either by the public institutions or the two other municipalities, ensured the demise of the whole concept of collaborative management with regard to Mount Royal. For example, the Université de Montréal is still reluctant to implement a management plan on its territory[115], due to limited available funding, or may also be due to a lack of commitment by the university's administration in supporting a collaborative approach to manage the mountain. Further, the Mount Royal Foundation is another example that reflects limited community or private contribution in supporting the implementation of the management plan. The Foundation, which is based on community and private funding, was not operational until 1996; and its first contribution is expected to be the restoration of the *"Smith House"*[116].

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[115] Interviews with Ms. Sylvie Guilbaut, coordinator, Les Amis de la Montagne, and Mr. Daniel Chartier, Service des Parcs, Ville de Montreal, in July 1998.

[116] Interviews with Ms. Sylvie Guilbaut, coordinator, Les Amis de la Montagne, on July 20, 1998.

Chapter VIII

THE DON RIVER, TORONTO

Running through Toronto is one of Canada's most valuable, but deteriorated urban rivers, the Don. While it is a source of beauty and a place of fond memories for those who have known it (Hough, 1990), it also has a recreational value due to the coolness of its valley on a hot summer's day (Hough, 1995). The cultural value cannot be overlooked either, as several early bridges cross its valley; such special characteristics have made it a landmark within the city of Toronto.

The Don's values have been ignored and despoiled for over a century. Rapid urbanization and related urban development, which occurred in the City during the last two centuries, have been accompanied by a deterioration of the river's conditions, particularly its water quality and natural habitats; the Don became severely polluted with sewage, illegally dumped wastes, and excess nutrients over this extended period, circumstances which have lent urgency to its protection and restoration (Hough, 1995).

Several collaborative efforts have been deployed since 1989 to manage the Don, and significant results have been achieved to date by the Task Force to Bring Back the Don (TFBBD) at the Lower Don and by the Don Watershed Council (DWC) within the Don watershed, at large.

8.1. DESCRIPTION OF THE CASE STUDY

8.1.1. The Context

8.1.1.1. Characteristics:

The Don River is one of the Water systems in the Greater Toronto region that extend from Oak Ridges Moraine in the North to Lake Ontario in the South (figure 8.1). The Don watershed covers an area of 360 km2, and has three major branches: the West Don, East Don, and Lower Don. First, the west branch rises in the hills of the Oak Ridges Moraine in Maple and descends 38 km. to Lake Ontario. The East branch, also called the Little Don, has several tributaries which originate in the area northeast of Maple to North of Richmond Hill. The main tributary is German Mills Creek, which flows through Richmond Hill, joining the west branch at the Forks of the Don where Don Mills meets the Don Valley Parkway. Finally, the third branch is Massey Creek which originates in Scarborough and changes its name to Taylor Creek as it crosses into East York. Its original sources are buried under Highway "401" at Victoria Park, however, it flows 15 km until it joins the east branch, just north of the Forks.

At the turn of the century, Toronto's 181,000 residents had urbanized most of the Don south of the Forks. As the city grew, various projects were undertaken for industrial purposes. For example, in the late 1880s, the Don was channeled and widened from Gerrard south to Queen to allow shipping to come up the channel (TFBBD, 1991). In the post-war development years, the suburbs exploded in growth in Toronto, as they did elsewhere in North America. In the early 1960's, the Don Valley Parkway was completed, destroying much of what remained of the historical valley in the city. In the 1970's, the population of Toronto surpassed two million residents, one quarter of whom lived around the Don. Today, about 80 % of the Don watershed is developed with this wave of sub-urbanization and it is expected that over 90% will be developed by the year 2000. In total, there are 800,000 individuals living in the Don watershed (MTRCA, 1997).

Figure (8.1)   Don River Watershed
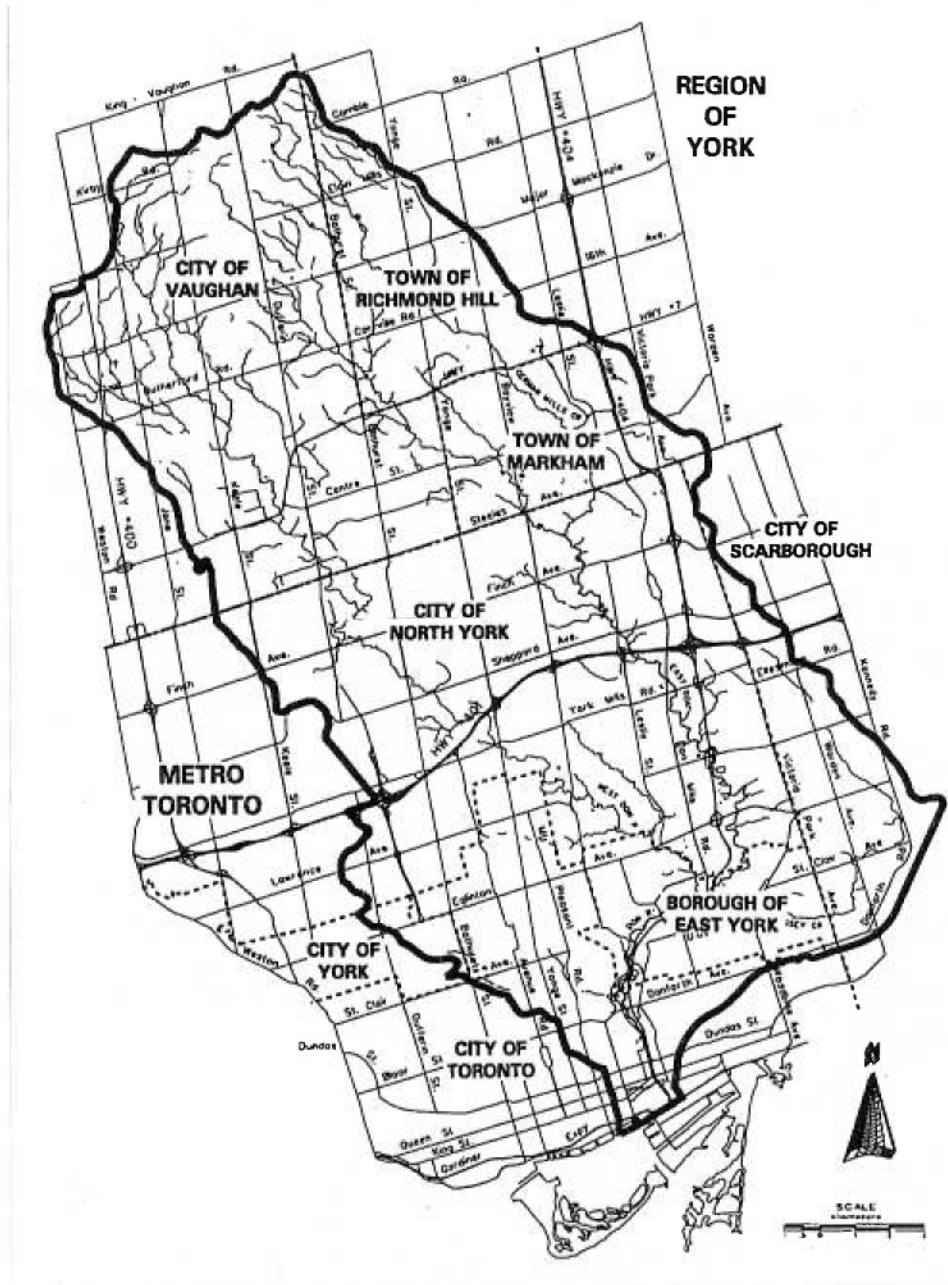
This rapid urbanization has been coupled with several developments, including an expressway, a four-lane road, railway tracks, transmission towers and salt dumps. These interventions have caused many problems such as noise pollution and inaccessibility to and from the river. Moreover, its once pristine water is now badly degraded from storm and combined sewers. Further, its vegetation and wildlife diversity have been greatly impaired.

The river and its tributaries are consequently subjected to various sources of water pollution; the Don's pollution originates from storm water and combined sewer overflows (TFBBD, 1991), but, in addition to these sources, there are flows from an existing water pollution plant, snow dumps, landfill sites, agricultural and rural sources (Hough, 1995). Storm water, however, remains the primary source of water pollution in the Don River (Hough, 1995), making up 71 % of the river's total flow and entering the river through more than 1185 outfalls. It carries everything that washes off the streets, expressways, golf courses, farm fields, shopping plazas, driveways and front yards, directly into the river[117]. When sewers were constructed in the 19th century, one pipe carried sanitary sewage, from bathrooms and kitchens along with water that ran off roofs and roads. With increased urbanization, the capacity of these sewers was greatly exceeded by heavy rain causing combined sewer overflows[118] (CSO) into the river.

The Don River and its surrounding wetlands also provide an immense diversity of flora and fauna; Toronto Field Naturalists have recorded 176 species of birds in their latest 8 ravine surveys, with a total of over 60 nesting species. Based on recent reviews of air photographs of the watershed, stands of natural vegetation are mainly restricted to narrow

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[117] Cutting down the forests and hardening the surfaces of the city have dramatically changed the natural water cycle. Instead of percolating through the ground over a number of days, and entering the river slowly, cool and clear, water rushes down in a few hours and comes in fast, warm and turbid. On the way, it picks up and dissolves whatever deposits found and takes all to the river and on to Lake Ontario (Theil et al, 1989).

[118] There are 30 combined sewers causing frequent overflows in Toronto, East York and Scarborough. When this CSO happens, parks can acquire a disagreeable smell and 'curious' tree ornaments; the fecal coliform level goes up in the harbor and on Lake Ontario beaches. Indeed, CSO is the root cause of beach closings in Toronto in the 1980s (TFBBD, 1991). Since 1974, the City of Toronto has separated 70% of its original combined sewers, primarily to reduce flooding (Fong, 1990).

bands of forest on the slopes and flood plains adjacent to watercourses. In addition, the valley continues to serve as a migratory corridor for wildlife and mammals. According to Wilson, foxes are regularly seen south of Bloor Street in the heart of the City of Toronto, and white-tailed deer have been seen in recent years in North York backyards (Wislon, 1997: 6).

A large number of this native vegetation and wildlife are now in danger (Herzberg and Juhola, 1987). Fish have probably been among the hardest hit by urbanization and the virtual elimination of a cold water habitat. Eighteen fish species currently remain in the Don, with a fair diversity of species in different habitats (MTRCA, 1997). All these natural habitats provide an indication that the river, while impaired, is far from dead, but needs interventions to mitigate the negative impacts of various human activities.

It has also been found that some sites are significantly contaminated (WRT, 1995), containing heavy metals in the form of lead, cadmium, copper and mercury, as well as organic compounds such as polycyclic aromotic hydrocarbons (PAHs) and PCBs. The highest levels of soil contamination are found at the Lower and Western parts of the Don where industrial plants operated until the 1960's[119].

In sum, the Don River is a valued natural environment within the greater Toronto region, but rapid urbanization and related urban development occurring in the city have been accompanied by severely deteriorated conditions of the Don, particularly its water quality and natural habitats. In addition, complex ownership patterns of public and private lands and often conflicting land uses within and surrounding the lower valley, the expressway, railways tracks, transmission towers and salt dumps, have contributed to the deterioration of the Don's environmental condition. Indeed, somewhere along the line, as the pace of life quickened and the demands of transportation and industry increased, Toronto forgot that the Don was a river. These circumstances, as well as a recognition for its values, have urged an awareness of the need for its protection and restoration (Hough, 1995).

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[119] Land Use Committee (1996: 64), Report No.2

8.1.1.2. <u>Previous Attempts to Manage the River</u>:

Several attempts to manage the river have exposed significant concerns about the deterioration of the Don's conditions. In 1950, the Ontario Department of Planning and Development prepared an early study entitled the "Don Valley Conservation Report" to provide an overview of the many aspects of the Don's development. The report presented a well-documented account of the river's systems and approaches to its protection and rehabilitation. However, the worst storm ever experienced in that region, Hurricane Hazel, struck four years later. Together with the rapid expansion of the city, this caused profoundly negative attitudes toward the river. Transportation routes, such as the Don Valley Expressway, replaced reforestation and conservation as perceived priorities (TFBBD, 1991). On the other hand, the 1960 "Natural Parklands" report by the City of Toronto's Planning Department urged the protection of the City's remaining ravines; the work to accomplish this objective was carried out slowly during the 1970's.

It was only in the 1980's, however, that environmental quality became a major health and political issue. Many people in Toronto realized that the challenge for the future revolved around the protection and management of the Don (TFBBD, 1991). In 1982, the MTRCA prepared the "Environmental Significant Areas Study", the purpose of which was to provide a detailed contemporary analysis of the Don's Watershed condition. The study focused mainly on the Don's natural features, and, for the most part, provided descriptive information on plants and animals native to the Don (MTRCA, 1994).

In 1987, the City of Toronto sponsored the Waterfront Remedial Action Plan (RAP); a plan which addressed the importance of ecosystem planning for the watershed and other specific water quality problems. It recommended further public input through education and awareness programs, and a "River Watch" project[120], in an attempt to involve citizens in restoring the Lower Don Valley.

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[120] Section 9.7.2 of the Waterfront Remedial Action Plan.

The Province of Ontario released an alarming report in 1989 as part of the Toronto Area Watershed Management Study. The results of this study indicated that the water of the Don was not drinkable, and often not safe for swimming. Estimates indicated that the City of Toronto on its own could expect to achieve a 2.5 % reduction in annual loading to the Don River[121] (Hough, 1993). This performance was not enough, however, to achieve an improvement in the Don's water quality due to the existing percentage of excedance (Table 8.1). Meanwhile, the study acknowledged the importance of public participation in the decision making process in which there were a variety of fairly costly remedial options to improve the water quality of the river[122]. As a result, mutual collaboration among various stakeholders throughout the entire Don's watershed was, therefore, necessary to "Bring Back the Don".

Table (8.1): **The percentage of Excedance**

Water Quality Parameter (*Target Value*)	% Excedance		
	Lower Don	*East Don*	*West Don*
Total Phosphorus (*0.03 mg/l*)	99-100 %	89-90 %	99-100 %
Fecal coliform (*100 counts/100 ml*)	75-96 %	89-96 %	60-80 %
Copper (*0.005 mg/l*)	80-90 %	30-40 %	60-70 %
Lead (*0.025 mg/l*)	11-28 %	9-17 %	3-10 %

Source: The Ontario Ministry of the Environment (September 1989) in TFBBD (1991).

8.1.2. A Collaborative Strategy to Manage the Don

8.1.2.1. The Initiation of a Collaborative Strategy:

A group of citizens met for months in 1988 and early 1989 to try to work out a strategy to restore the Don River and its valley. The so-called "Don River Working Group" included 75 members, individuals and representatives of community and environmental groups dedicated to rehabilitating the Don[123]. Their aim was to manage the Don by stopping the

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[121] Given an approximate removal efficiency of pollutants of 50 % through the elimination of combined sewer overflows and treatment of storm water.
[122] Recommendation No.10 in the City of Toronto Executive Committee (1990: 8.240), Report No. 13.
[123] Mr. Michael Hough, Personal Communication on May 5, 1998.

existing pollution and preventing future degradation of the river's wetlands, forests and waters. This meant cleaning up the river and returning the Don to a natural state through natural regeneration as well as restoration, reforestation and rehabilitation (TFBBD, 1991).

During their meetings, the members of this *ad hoc* group prepared a work plan to achieve the shared vision (Trépanier et al, 1990). Several key aspects were identified in this plan. First, the management of the Don should accommodate the various interests in such a valued environment. For example, it should host wilderness areas, marshes, ecology parks, public sporting fields and other uses as diverse and eclectic as the City's population, "but never hosting environmentally unsustainable development activities"[124]. The members of the working group stressed another aspect, they wanted the Don to belong to the public and become accessible to the public. Further, they needed to stress the important role the Don played in the history of Toronto. The objective was to nurture a sense of belonging to their city and their land[125].

Looking for more political support, the group contacted the City of Toronto. It submitted a communication to the Neighborhoods Committee requesting that the City Council formally establish an interim task force that could act as an on-going Don River planning and management body across the watershed to clean up the Don as well as prevent future degradation[126]. Such an "interim arrangement would allow city staff and the task force to resolve outstanding organizational structure issues"[127].

8.1.2.2. The Various Stakeholders:

This section identifies the different stakeholders who have an interest in managing the Don. It also illustrates these interests with regard to a collaborative approach to manage the Don.

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[124] City of Toronto Executive Committee Report No. 36 (1989: 14401).
[125] Mr. Mark Wilson, Chair of the TFBBD, Personal Communication.
[126] Minutes of the Neighborhoods Committee meeting on July 6, 1989 (c71 nhc 89071: 79)
[127] City of Toronto Executive Committee (1989: 14384), Report No. 36.

- *The Federal agencies*

The Canadian federal government has refrained from becoming directly involved in urban policymaking (Frisken, 1993). It plays a low, unobtrusive role in urban affairs in general, and in environmental issues in particular.

Despite its noninterventionist stance, there are many ways in which the federal government influences environmental management issues. For example, it makes large monetary transfers to provincial governments, which absorb them into budgets from which they make grants to municipalities. Any change in federal funding levels or funding formulas is likely to induce changes in the amount or type of provincial transfers to municipalities. Further, extensive land holdings in urban areas are another source of influence.

Another example relates to the federal government's ownership of harbor-related land on the Toronto lakeshore. The ownership of these lands has made the federal government a somewhat significant stakeholder when discussing the future of lands along the Metropolitan Toronto Waterfront; this federal involvement also reflects its implication in the Don's management.

In response to the Harbourfront dispute[128], the federal government set up a Royal Commission, the Crombie Commission[129], to review all aspects related to the development of the entire Metropolitan Toronto Waterfront, not only its ownership of

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[128] In 1972, the federal government made available to the City of Toronto more than 100 acres of federally owned waterfront land for recreational use. A newly created crown agency, Harbourfront Corporation, took the responsibility of developing and managing this land. The corporation adopted a development plan to which the city gave little attention, asking only that it provide the city with additional housing and maintain its recreational programs without imposing new costs on the city tax base. When the results of the plan began to materialize in the form of high rise apartment towers cutting off the city from the lake, critics attacked both the city and the federal government. While the city was attacked for its failure to exercise sufficient planning control, the federal government was blamed for failing to pay enough attention to the agency it had created (Frisken, 1993).

[129] Former Mayor David Crombie headed the Royal Commission on the Future of the Toronto Waterfront. Recently, this Commission has been re-incarnated as the Waterfront Regeneration Trust, a quasi-public agency, which is actively developing plans for the Lower Don Lands (The Urban Ecologist, 1997).

waterfront lands, but also its responsibility for monitoring the environmental impacts of development along inland waterways, justified a study of this scope. For several years, the Commission heard from hundreds of local people at public hearings, set up working groups[130], and conducted technical studies in order to develop a consensus on what the Toronto waterfront should look like twenty years hence. Part way through the process, the government of Ontario gave the commission a complementary provincial mandate (Frisken, 1993).

Through its public forums and publications from 1988 to the end of 1991, the Commission introduced the concept of integrated environmental planning to a great many people in Toronto (MTRCA, 1994: 25). This approach to the waterfront integrates issues related to Lake Ontario and its shoreline with those of the Don River that feed into the lake. The importance of the Don was evident as the final report of the Commission, entitled "Regeneration", included a special section on the river (Hough, 1995).

In sum, the federal government expressed its concern with the management of the Don, a concern which came about as part of the integrated environmental management approach adopted in planning the future of the Toronto Waterfront. Other federal involvement is also present through Environment Canada and Forestry Canada in their Great Lakes Cleanup Fund and the Tree Plan Canada, respectively. Several projects for the restoration of the Don recently benefited from these programs.

- *Ontario Provincal agencies*

Previously, the provincial government intervened radically in urban and environmental affairs (Trépanier et al, 1990). Since the mid 1980's, however, the provincial government recognized that such involvement implies high political and financial costs. More delegation of responsibilities was necessary to involve the various municipalities and urban actors in sharing such costs. After taking office in 1990, the New Democratic

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[130] For example, the Site Remediation Working Group has been established. This group prepared a report entitled "an integrated approach to soil and groundwater management in the Lower Don Lands" in 1995.

government assigned an importance to participation, particularly in environmental issues (Friksen, 1993).

This concern about more participation in environmental affairs was evident, for example, in the creation of the Environmental Assessment Board and the Environmental Appeal Board. These are two avenues for public appeal of planning and development decisions. The job of the first is to facilitate public input regarding projects having significant environmental impacts and to conduct public hearings on matters related to such projects. The second hears appeals of the Ministry of Environment or local health board with respect to decisions that have implications for air, soil or water quality.

Notwithstanding budgetary restraints, the provincial government was particularly concerned about the Don, mainly in the water quality aspects of the Don's management. Its involvement in and support for the preparation of several water quality studies, recently, affirm this interest, reflected in the Water Remedial Action Plan. Other efforts are also deployed by the provincial Ministry of Environment and Energy, and the Ministry of Natural Resources to support projects for the restoration of the Don watershed (MTRCA, 1997).

- *Regional and local agencies*

The Don watershed is part of the Greater Toronto region. More specifically, the Don is located within the new city of Toronto. The city was created on January 1, 1998, as a result of Provincial legislation which amalgamated seven municipalities[131]. Previous to the amalgamation process, Metro Toronto, a regional municipality that included six local municipalities[132] with an area of 632 Km2, included a significant part of the Don's watershed. Each of its six local municipalities had its respective elected mayor, and all six elected mayors sit on Metro Council, which was comprised of a total of 34 councilors.

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[131] The regional government of Metropolitan Toronto and six local area municipalities, Toronto, East York, North York, Scarborough, York and Etobicoke.

Most responsibilities were shared to varying degrees between the two levels of government, namely the metropolitan and the local levels. For example, the metro level was responsible for major capital infrastructure, sewer lines, arterial roads and waste disposal, while the local councils provided similar services, water distribution, local sewage collection, local streets and garbage collection, to their own residents. The same can also be said about planning and management of watersheds (Trépanier et al, 1990). While the regional agencies undertook the general strategy for the Don watershed, the municipal authorities made the necessary interventions on the local level.

Among the various regional authorities, the Metropolitan Toronto and Region Conservation Authority (MTRCA) were the most influential agency with respect to the management of the Don. Created as a consolidation of four conservation authorities[133], its mandate was to manage several watersheds, including the Don. The emphasis of this environmental management[134] was on public security, especially control of flooding and erosion, and conservation matters, such as water quality. Its authority to regulate the use of both publicly and privately owned lands in watershed areas allowed it to influence the land-use plans of municipalities and private developers. Frisken states that "the MTRCA is not only the largest but also the best funded of Ontario's 38 authorities because it can draw on Metropolitan Toronto's healthy tax base for much of its local funding" (Frisken, 1993: 163). Consequently, it had been able to acquire about 26,000 acres of land, some of which it had turned over to member municipalities to manage for recreational purposes[135]. Following the preparation of a Regeneration strategy plan and the signature of the "Don Accord" in 1994, the Don Watershed Council took full responsibility for coordinating various actions to implement the plan with other stakeholders, including local governments.

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[132] A substantial reorganization of the Metro system in 1967 saw the consolidation of Metro's 13 municipalities into six. These municipalities were York, North York, East York, Scarborough, Toronto city and Etobicoke which are currently part of the amalgamated city.

[133] Four conservation authorities were managing the 4 watersheds in the region following the 1946 provincial legislation on Conservation Authorities (Trépanier et al, 1990: 25).

[134] This focus has been reviewed several times, such as the one conducted in 1983/84 to make the MTRCA more efficient (Trépanier et al, 1990).

[135] Ms. Adele Freeman, Don Watershed specialist, MTRCA. Personal communication on May 8, 1998.

While the MTRCA was the most influential regional agency, the City of Toronto was the most involved local municipality in the management of the Lower Don before the amalgamation. It was also the largest in terms of population (620,000 inhabitants). Currently, the new city has a population of 2.4 millions. Further, the City of Toronto played a significant role to bring various municipal agencies, community groups and the private sector to contribute to the management of the Lower Don. Despite several municipal elections during the last decade[136], the municipal authority remained supportive to these efforts of managing the Don[137]. Three departments had been significantly involved in this management, namely the departments of Parks and Recreation, Public Works and the Environment and Planning and Development[138].

- *The community and the business sector*

Several community groups are active in Ontario, particularly in the Toronto region. It is estimated that well over two million people, formally or informally, volunteer with an estimated 64,000 community organizations (OG, 1997). In Toronto, almost 23% of all community organizations work exclusively in environmental protection and related issues[139]. These groups play an inestimably valuable role in managing the Don. According to a recent MTRCA report:

> The most effective advocates for regenerating the Don are the people living in its watershed. During the past several years, many grassroots groups have sprung up and become active in the restoration projects and advocacy, all the way from the Lower Don to the headwaters (MTRCA, 1994: 24).

Several groups support reforestation projects and various tree planting activities, the Evergreen Foundation, Friends of the Environment Foundation, Friends of the Don at Toronto, North York and East York. Further, citizens organize ravine clean-ups each

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[136] In Toronto, the municipal election is every three years.

[137] This is mainly because of public pressure and of a moderate political ideology between conservative (PC) and social (NDP) adopted by the city. Personal communication with Mr. David Stonehouse on August 20, 1998.

[138] Mr. David Stonehouse, City of Toronto. Personal communication on May 6, 1998.

[139] The remaining community groups work in social issues (41%), health issues (26%), and others (10%). See the Metropolitan Toronto Planning Department (1994) for complete figures.

spring. They provide time and money to support the activities of the task force to Bring Back the Don (TFBBD) in the Lower Don area[140] and the projects of the Don Watershed Regeneration council (DWRC) in the Upper and Middle Don areas[141]. Among these activities, many groups work to preserve historic sites like the Toronto Brickworks, to enhance wetland areas on the Lower Don, and to educate the public at large.

It must, however, be recalled that the Toronto area is the economic heartland of Canada, accounting for nearly two out of every 10 jobs in the country, and more than four of every 10 jobs in Ontario[142], an economic potential carried by a dynamic business sector within the Toronto area. The increasing environmental concerns among the population pressured the important business sector to adopt an "environmental-friendly" image to maintain its share of the market. As a result, this business sector largely supports the restoration of the Don. For example, some of the reforestation projects were fully sponsored by private companies such as Mountain Equipment cooperative, the Nature Company and The Body Shop. Others provided financial support for the budget of the TFBBD, including Mercedes Benz and Mitsubishi Canada as well as other organizations working in the management of the Don such as The Bank of Montreal and United Financial Management. Further, other business partners supported the educational and awareness campaigns about the Don, notably, Mediacom and the Toronto Star newspaper.

In sum, both the general community and the business sector are significantly concerned with the management of the Don River. On one hand, the concerned community has been organized in several environmental groups that helped to restore the river and to educate the general public about the Don. The business sector, on the other hand, helped to financially support these activities to achievement, in an attempt to maintain its share of the market by promoting an environmentally friendly image.

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[140] Such in the case of Toronto Church of Christ.
[141] Such as in the case of Toronto Field Naturalists.
[142] Metropolitan Toronto Planning Department (1992) in Frisken (1993).

8.2.2.3. <u>The Operation of the Collaborative Process</u>:

In September 1989, the City Council agreed to officially establish an Interim Task Force on the Lower Don River Clean up[143] (figure 8.2.). The mandate of this task force was to undertake initiatives that would contribute to the ultimate goal of restoring the Don River and valleylands by the year 2001; and the Lower Don would be the focus of these initiatives (Gransaull, 1997). To this end, its first objective was to promote community participation in planning for the rehabilitation of the Don River; such involvement would begin with public awareness programs[144]. It also aimed at developing a definite information base on the Don that served the initiation of several public activities related to open space restoration and the re-establishment of physical links between the river valley and adjacent communities[145]. Finally, a prime objective was to develop a major plan within one year, in which key-actions should be identified to "bring back the Don".

To address these objectives, the interim task force conducted several activities to demonstrate its commitment to the Don's clean up. It compiled a library of written information about the Don[146], initiated community development work to bring people to the river and make them aware of its problems and potential for restoration. The "Don Day" event was one of these activities initiated to develop a *rapport* with upstream citizen associations and individuals. Further, there was a 600 member "Friends of the Don" mailing list in only two months following City Council's approval of the establishment of the interim task force[147].

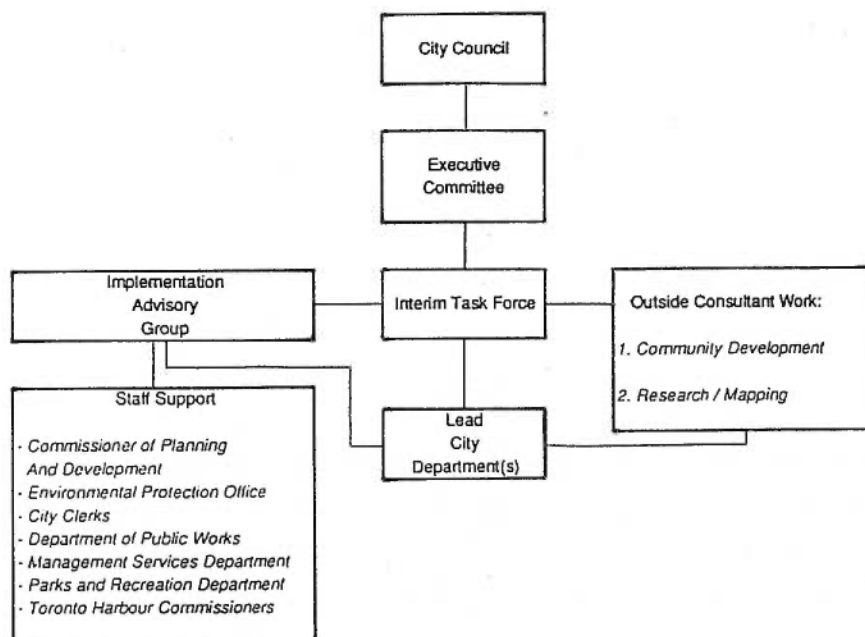[143] City of Toronto Executive Committee (1989: 14383), Report No. 36.
[144] Ibid, pp. 14387
[145] City of Toronto Executive Committee (1990: 8.237), Report No. 13.
[146] An overview of all available information about the Don was published in *Urban Views*, vol. 1(2), September 1993.
[147] City of Toronto Executive Committee (1990: 8.238), Report No.13.

Figure (8.2): **Interim Task Force on the Don River Clean Up**
Organizational Structure

At this point, a permanent organizational structure was necessary to sustain the continuity of these activities and to give more credibility to the interim task force[148]. In its meeting held on May 7 and 9, 1990, City Council approved the establishment of the permanent Task Force to "Bring Back the Don" (TFBBD). This 23-member task force consisted of a new core membership that included representatives of community groups and industries adjacent to the river, as well as several governmental agencies from the provincial, regional and municipal levels.

The emphasis of the TFBBD work was on a collaborative approach to manage the Don. It was committed to a citizen-driven process and to working in collaboration with other

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[148] City Services Committee (1990: 13.481), Report No. 12.

stakeholders[149]. For example, it worked closely with an advisory group from various municipal departments, such as the Parks and Recreation Department in a demonstration project for revegetating the Riverdale Park East[150]. Other municipalities, for example, East York, were involved in such initiatives as well as other governmental agencies, such as the Toronto Harbour Commission (Trépanier et al, 1990: 37).

A significant achievement of the TFBBD was the preparation of a restoration plan in 1991 entitled "Bringing Back the Don". This study focused on the Lower Don, and outlined the overall strategies for restoration. It also examined some options within a prepared strategy agenda, and suggested general cost allowances and phasing the work to 2001 and beyond.

Based on an assessment of the existing conditions of the Don, the plan set specific objectives such as enhancing access to the river, creating marshes as aquatic habitat, and, most importantly, coordinating planning policy for the Don valley with other stakeholders. More generally,
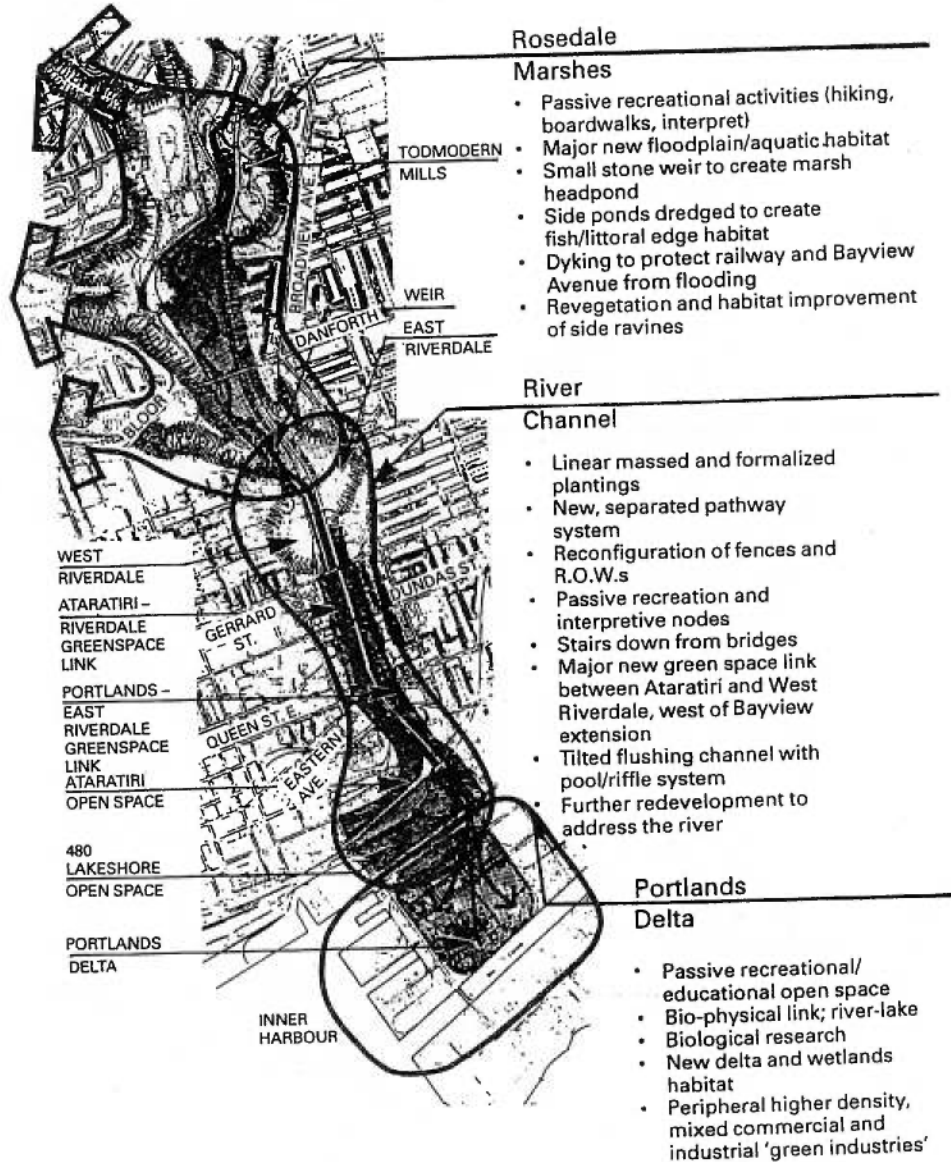
> The restoration plan of the Don was directed towards a creation of a new urban space seen to perform productive and environmental functions in addition to its traditional recreational and aesthetic functions (TFBBD, 1991: 2)

Several actions were proposed (figure 8.3) to achieve these objectives over three phases of five years each. While some of the proposals were relatively large in scale, like the hydrological works, many others were not, such as public awareness campaigns and reforestation. At the end, these actions would directly benefit water quality, habitat creation, access, recreation, and research (TFBBD, 1991: 92).

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[149] Mr. David Stonehouse, coordinator of the TFBBD. Personal communication on May 6, 1998.
[150] City of Toronto Executive Committee (1990), Report No. 13.

Figure (8.3): **Lower Don Strategy Plan**

Rosedale

Marshes

- Passive recreational activities (hiking, boardwalks, interpret)
- Major new floodplain/aquatic habitat
- Small stone weir to create marsh headpond
- Side ponds dredged to create fish/littoral edge habitat
- Dyking to protect railway and Bayview Avenue from flooding
- Revegetation and habitat improvement of side ravines

River

Channel

- Linear massed and formalized plantings
- New, separated pathway system
- Reconfiguration of fences and R.O.W.s
- Passive recreation and interpretive nodes
- Stairs down from bridges
- Major new green space link between Ataratiri and West Riverdale, west of Bayview extension
- Tilted flushing channel with pool/riffle system
- Further redevelopment to address the river

Portlands

Delta

- Passive recreational/ educational open space
- Bio-physical link; river-lake
- Biological research
- New delta and wetlands habitat
- Peripheral higher density, mixed commercial and industrial 'green industries'

Source: TFBBD (1991: 7)

A total amount of $63 to 87.5 million was required for the implementation of these actions. In response, the plan advocated a collaborative approach among various stakeholders to mobilize these required resources[151].

The preparation of the restoration plan also was a collaborative work between various community groups concerned about the Don and the expertise of the private sector[152]. Several governmental agencies also shared valuable information about the Don with the consultants' team, including the MTRCA, the Toronto Harbour Commission, the Royal Commission on the Future of the Toronto Waterfront, and the Department of Planning and Development at the City of Toronto. This participatory process continued to be the corner stone of the currently on-going restoration plan's implementation[153].

Complementing the efforts of the TFBBD, the MTRCA created the Don Watershed Task Force (DWTF) in 1992. The DWTF's primary mandate was to develop a "management plan strategy", or a regeneration plan, for the entire Don Watershed[154]. Similar to the regeneration plan of the Lower Don, this management plan would define what a healthy, sustainable Don Watershed would be like, and present specific actions to achieve that vision in areas such as water and land resource management. It would also outline generation plans for the seven sub-watershed in the Don system[155], identify how and by whom the plan should be implemented (MTRCA, 1994).

The DWTF, chaired by the TFBBD Chair, was organized into working groups. Each group had a focus on following: a vision for the watershed; water, flora and fauna; community issues; implementation with respect to actions and partners necessary to achieve the vision; and celebrating the Don Watershed[156]. Each group also developed a

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[151] Mr. Michael Hough, Personal communication on May 5, 1998.
[152] Hough Stansbury Woodland as prime consultants, in association with Gore and Storrie Ltd., Dr. Robert Newbury, and the Kirkland Partnership prepared the plan.
[153] Mr. Michael Hough, Personal Communication on May 5, 1998.
[154] Ms. Adele Freeman, MTRCA, Personal Communication on May 8, 1998.
[155] The seven sub-watersheds of the Don are: Upper West Don; Upper East Don; German Mills Creek; Lower West Don; Lower East Don; Taylor/Massey Creek; and Lower Don.
[156] Ms. *Adele Freeman*, Don watershed specialist, MTRCA. Personal Communication on May 8, 1998.

proposed strategy to address its respective focus, which was then circulated to agencies, municipalities and the general public for review and comment (Gransaull, 1997).

Figure (8.4):   The Seven Sub-Watershed of the Don
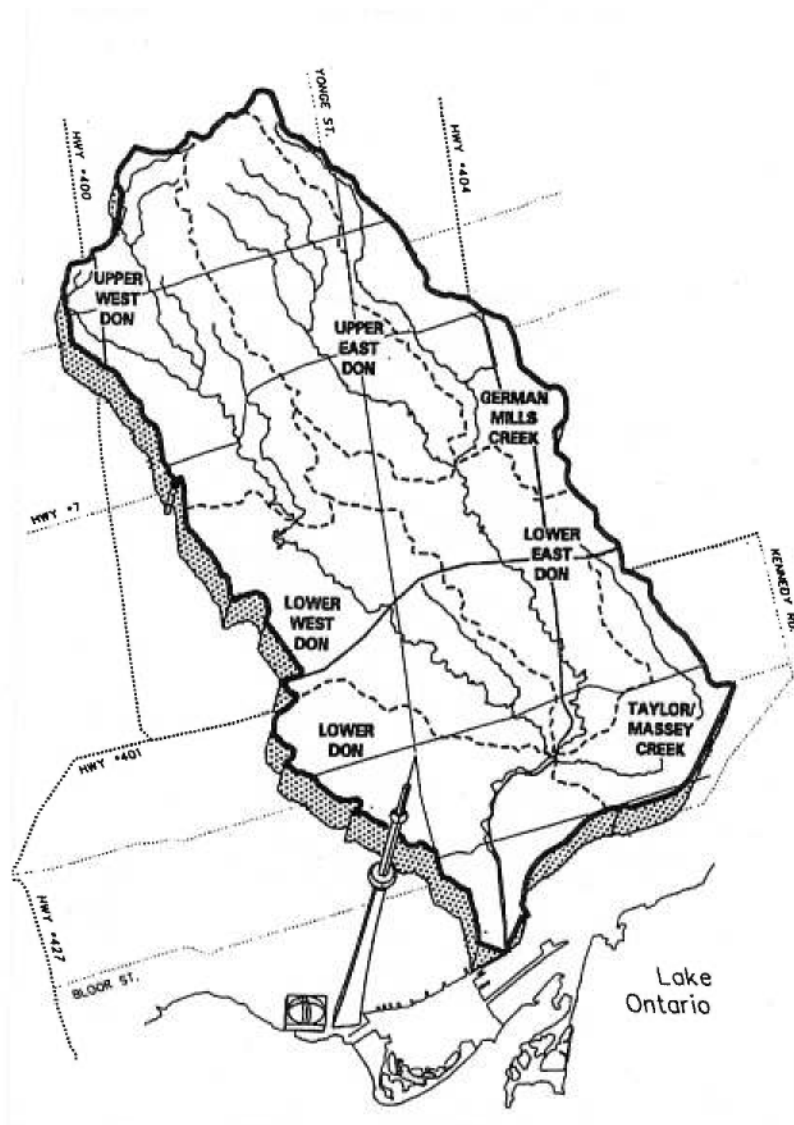
Source: MTRCA (1994: 53)

According to Gransaull

> Through a process described as embodying consensus, cooperation and mutual respect, the DWTF produced their strategy document following nineteen months of focused group work and extensive consultation. (Gransall, 1997: 106)

In May 1994, the MTRCA formally endorsed the strategy entitled "Forty Steps to a New Don". There were also additional detailed plans for each one of the seven sub-watersheds (figure 8.4). To begin implementing these plans, the MTRCA modeled a Council on the original DWTF, namely the Don Watershed Regeneration Council (DWRC). It was designed to carry the "Don vision and action plan into action" (MTRCA, 1994: 50), and to develop partnerships with various stakeholders. Indeed, the DWRC developed the "Don Accord" with various regional and local municipalities, agencies and businesses. For example, these municipalities included Metro Toronto, the regional municipality of York, and the cities of York, Toronto, Scarborough, North York, Vaughan, and the towns of Richmond Hill and Markham (MTRCA, 1997). Implementation of the regeneration plans is currently underway.

8.1.2.4. Achievements for Managing the Don:

For several years since its establishment in 1989, the Task Force to Bring Back the Don (TFBBD) has actively pursued its mandate to work towards restoring the Lower Don River to a clean, green and accessible waterway. Similarly, DWRC continues to implement its management plan, "Forty Steps to a New Don", and to support the regeneration of the Don watershed. Both entities have worked and continue to work in collaboration with several municipalities and regions, government agencies and non-governmental organizations, in activities that include lobbying and advocacy, public education, and community involvement. They have also been undertaking restoration projects such as tree and shrub plantings wildflower plantings, and the establishment of the Chester Springs Marsh. Most of these projects were of reasonable cost and community-based[157]

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[157] Mr. Michael Hough, consultant and professor at York University. Personal Communication on May 5, 1998.

Several stakeholders provided financial support for these interventions. These include the Ontario Ministry of Natural Resources Community Wildlife Improvement Program, and the Ontario Ministry of Environment and Energy Environmental Partners Fund. The private sector also supported these projects, for example, the Body Shop provided the greenhouse space and many employees who volunteered during the implementation of the Wildflowers planting project. The following are three examples of the several interventions successfully implemented by the TFBBD and DWRC.

With respect to the Task Force's naturalization plantings, more than 9000 people have planted over 22,000 trees and shrubs and thousands of wildflowers. In excess of 400 people participated in the Chester Springs Marsh planning process, and many others have expressed an interest in following the project and helping with implementation[158]. In addition, the TFBBD has intervened to improve the access to the river through a Lower Don Trail. As a result, this access has helped to promote a sense of connection to the river for residents in communities bordering the Don, and to attract significant numbers of people seeking to use the valley for recreational and educational purposes (Gransaull, 1997). Further, more than 3 000 supporters have been added to the task force mailing list[159].

Given such achievements in the period 1989-1995, the Toronto City Services Committee endorsed the second five-year plan submitted by the TFBBD for the period (1996-2001). The plan is comprised of 14 projects[160] to be implemented with the collaboration of different agencies. Indeed, the projects promoted in this phase are all consistent with the evolving plans identified in the DWTF's "Forty Steps to a New Don"[161], an emerging Lower Don Lands strategy prepared by the Waterfront Regeneration Trust, and the ongoing Metro Toronto Remedial Action Plan, supported by the provincial Ministry of Environment. The Riverdale Farm Pond Naturalization project is a significant example of

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[158] City Services Committee (1995: 86-87), Report No.16

[159] Ibid., pp.89

[160] Among these projects, there are the Lower Don Comprehensive Signage Program, the Don Mouth Lands Restoration, a small scale Habitat Enhancements project, and the Riverdale Farm Pond Naturalization. See the City of Toronto City Services Committee (1995: 90-94), Report No.16, for the whole list of projects.

such a coordinated effort, concerned with restoring two ponds to create a more sustainable and natural hydrological system at the site of Riverdale Farm through planting native trees, shrubs and aquatic plants. The project is undertaken in partnership with the MTRCA, the Remedial Action Plan, the City of Toronto, as well as private organizations and foundations[162].

Community involvement activities have included both the tree planting events and the sponsorship of walks and runs in the Don Valley. For many residents, these events were their first experience of the river. As such, the events serve to catalyze new interest and support for the restoration and enjoyment of the Don River[163].

The Wildflower project is a significant example exemplifying the establishment of a partnership between community groups and governmental agencies. The purpose of the project was to reestablish populations of native flowers and grasses historically found in the Don Valley, many of which had been reduced or eliminated by habitat disruption or degradation. Volunteers from several community groups collected seeds from a variety of native flowers and grasses from widely dispersed areas in the valley. These seeds were germinated in the spring; throughout the summer the seedlings were divided and transplanted into flats as they grew. Working in partnership with the City of Toronto Parks and Recreation Department and Grow Together Community Gardeners, several plantings took place in the autumn. More than 22,000 trees and shrubs were planted by the end of 1995 to reforest the Don Valley.

The Demonstration Habitat Wetland Project is another example of a collaborative achievement to support the Don. The project was designed by the TFBBD and included a process of intensive community consultation. The wetland was built on 2.88 hectares of land owned by the MTRCA and managed by the Metropolitan Toronto Parks and Property Department (MTRCA, 1997). The TFBBD has fostered the necessary

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[161] Ms. Adele Freeman, MTRCA, Personal Communication on May 8, 1998.
[162] City Services Committee (1995: 91), Report No.16
[163] Interview with David Stonehouse, Planner, who was the coordinator of the Task Force to Bring Back the Don at the City of Toronto (May 1998).

implementation partnerships and raised the funds needed to construct the marsh. For example, the Task Force raised the funds for the consultation and design stage ($40,000) from Environment Canada, Canada Trust and Mountain Equipment Co-op, a project which has received extensive media attention as evidence of a successful collaborative effort to restore the Don[164].

To sum up, several achievements were gradual and in the form of small projects. The TFBBD and DWRC adopted this progressive approach for a variety of reasons having to do with political agendas. For example, these reasons included the formation of partnership agreements. They also included funding since some work cost very little when spread out over a number of years, while others are more costly. There was also the significance aspect since the Don is a small but highly significant resource for a large number of people in the Toronto area (TFBBD, 1991; MTRCA, 1997).

8.2. ANALYSIS OF THE CASE STUDY

In this section, the analysis of the Don River case follows the pattern defined in chapter six. The emphasis reflects the proposed conceptual framework in this thesis, and focuses on three interrelated key-aspects that determine the effectiveness of collaborative management strategies: the commitment for collaboration; the process of collaboration; and the adaptation of the institutional arrangements already in place. The analysis uses the data collected from several sources by the three methods identified in (6.4): documentary information, a survey, and semi-structured interviews. Appendix B includes a copy of the survey questionnaire, full survey results, the interview plan and a list of interviewees in Toronto.

8.2.1. Commitment to Collaboration

A commitment from the various stakeholders is essential if collaborative management is to succeed. This section focuses on the commitment of the general community in Toronto

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[164] Interview with Adele Freeman, Don/Highland Watershed Specialist at the MTRCA, in May 1998.

and its perception of the commitment of the political authorities with regard to the collaborative approach to manage the Don River. The analysis is based on the results of recent survey research and several interviews conducted in Toronto (May-August 1998).

8.2.1.1. <u>Community Commitment</u>:

- *Environmental Attitudes about the Don*

In Toronto, almost all respondents (96%) agree that they are concerned about the environment. This concern is also relevant when respondents are asked about their responsibility to future generations.

Not surprisingly, the same general environmental trend is also evident for a concern about the Don; nine of ten respondents[165] (90%) agree that they are concerned about the Don. This concern varies in nature; while three quarters (75%) agree that the river is important and necessary to them "personally", four in five respondents (80%) perceive it as important and necessary to their "community" as a whole. When asked, "what is the importance of the Don, in your opinion", more than half (52%) responded "recreation", another 40% responded "a landmark in Toronto". Indeed, three quarters (75%) agree that the river is a "good place" for various activities, to walk, bike, run or fish, for example.

Concern about the Don created the necessity to manage it. Seven in ten respondents (71%) agree that the Don is very polluted, indeed, three fifths of respondents (48%) correctly knew that water from storm drains goes directly into the Don Rive, causing significant water pollution. Further, 26% of the respondents perceived a loss of natural habitat, and another 18% pointed to soil contamination.

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[165] 24% somewhat agree and 66% strongly agree

- *Environmental Behavior towards the Don*

Almost four fifths (77%) agree to support the effort to clean up and manage the Don River as they believe that people are responsible for improving the Don's condition. Such responsibility is expressed in different ways, for example: by pressuring the authorities to act (36%), by changing one's own negative behavior (25%) and by inspiring other people to change their behavior (16%). The other fifth of respondents (19%) denies this responsibility, as they report that "industry" and/or "government" should be responsible.

When asked what they should do, almost half of respondents (46%) agree that the problems of the Don should be solved collectively. One third of respondents (33%) reported being aware of any Don River regeneration or management program. Indeed, most of these respondents report they have volunteered time or money to a community group over the last twelve months in support of the Don. On the other hand, 21% of respondents favored contacting a governmental agency to manage the Don, compared with 18% who responded "ask the support of elected political leaders". A further one in ten (12%) thought it should be the responsibility of individuals.

There were no significant gender differences in these answers, however, according to a similar survey recently conducted by the MTRCA (MTRCA, 1997), it was noticed that younger respondents were more likely to support public responsibility to manage the Don (34% of those under 35), than older respondents (18% of those 35 and above). Conversely, environmental volunteer activity was highest among those aged 35 to 45 (26%) compared to other age groups (13%). Furthermore, women were more likely to have volunteered their time (38%) compared to men (29%), although men were slightly more likely to have volunteered both time and money (43%) compared to women (37%)[166].

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[166] Respondents earning less that 30,000 were more likely to have volunteered time (49%) compared to respondents in higher income brackets. Those earning more than $60,000 were more likely to have volunteered both time and money (50%) compared to those in lower income brackets.

The media play a significant role in supporting an environmental behavior such as that exhibited towards the Don River. Three fifths of respondents (62%) report that the media have an important role in disseminating information on things that they could do to help manage the Don River. This information includes mostly news about various governmental agencies (40%), particular agencies or groups such as TFBBD and DWRC, and/or their activities (38%). Some information is also responsible for awareness regarding new legislation for the protection of the Don (10%). On the other hand, it seems that newspapers (39%) are slightly more popular than the television (36%) as a communication medium.

In sum, the community members in Toronto are concerned about the environment, particularly the Don River. This positive attitude about the Don facilitates the development of a common vision among the community for the importance of the river and the need to protect it. Such a common vision enables the development of a team atmosphere and a collaborative environment within the community to act in support of the Don; volunteering time and money is significant evidence of such collaboration. Various communication media, particularly newspapers and television, support such positive environmental behavior towards the Don.

8.2.1.2. Perceived Political Commitment:

If collaborative management is to be effective, political authorities must demonstrate leadership and commitment to the idea of sharing in the decision making process. The findings of this research reveal that the general public in Toronto perceives significant political commitment with respect to collaborative management strategies. Further, there is also evidence that the governmental authorities play a prominent role in managing the Don.

Two thirds of the survey's respondents (65%) agree that governmental authorities, on the federal, provincial and local levels, are concerned about the deterioration of the Don. Only 19% of respondents disagree about such concern. In fact, two thirds of respondents

are aware of several governmental efforts deployed to protect and manage the Don River. This positive perception is evident as 79% of respondents are optimistic with regard to the significant role of governmental authorities in managing the Don. In fact, almost half (46%) agree that the Don is less polluted than it was five years ago as a result of governments' efforts to protect and clean-up the river.

The governmental endeavor is also seen as complementary to the efforts of other stakeholders. More than a third of respondents (36%) are aware of the need to engage governmental authorities and political decision-makers in the activities of managing the Don to complete the efforts of the business sector (21%), the community groups (31%) and other stakeholders such as research centers and the media.

The results of the research confirmed the prominent role of governmental authorities in managing the Don River. There is a perception that this governmental role is essential, but also complementary, to the efforts of other stakeholders such as community groups and businesses in the management of the river. Further evidence is needed to demonstrate a positive political commitment towards a collaborative approach in managing the Don; the following is evidential of that commitment.

8.2.2. The Process of Collaboration

This section examines the planning process as it relates to the management of the Don. It seeks to discover the balance of power among different stakeholders in order to explore how collaborative management can work effectively. Two aspects characterize this balance: access to the process and sharing of decision-making (Bass et al, 1995; Berkes et al, 1991; Borrini-Feyerabend, 1996).

8.2.2.1. Access to the Process:

It is necessary that all interested and affected parties have access to the process in order to reach a balance of power among stakeholders. This section provides two interrelated

aspects of access: the representation of different stakeholders' interests, and access to various resources, including funding, training and information.

- *Representation of stakeholders*

Inclusive representation of interests is a key condition for effective collaborative management. In Toronto, the stakeholders' interests were significantly represented in the collaboration process. The composition of the TFBBD, for the Lower Don, and the DWTF, for the Don watershed, reflect such broad representation.

From the onset, mainly citizens dominated the *ad hoc* group concerned with the Don River Clean Up. The membership of this 1989 Interim Task Force was comprised of 12 citizens, two City Councillors and a federal representative[167]. Several representatives of city departments served as observers on this task force, such as the Commissioner of Planning and Development, the Executive Director of Management Services, the Commissioner of Parks and Recreation and the Commissioner of Public Works[168].

The permanent Task Force to Bring Back the Don (TFBBD), established in 1990, mirrored a more diverse representation of stakeholders. The TFBBD included 4 of the existing interim task force members, 4 citizens at large interested in the clean-up of the Don River, as well as 4 representatives from communities adjacent to the River. In addition, the task force included 3 representatives from industries adjacent to the River, and 3 representatives of environmental groups[169]. Another 4 local politicians and two City Councilors were also added as members of the Task Force. Moreover, six observers from East and North York participated in the Task Force meetings[170].

The Don Watershed Task Force (DWTF) (1992-94) followed the same diversified pattern of stakeholders' representation. This task force was designed as a watershed-wide forum

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[167] The Honorable David MacDonald.
[168] Neighborhoods Committee (1989: 12708), Report No. 14.
[169] One representative nominated by each of the Toronto Field Naturalists, Citizens for a Safe Environment and the Pollution Probe Foundation.
[170] City Services Committee (1990: 13.482), Report No. 12.

for representatives elected from the ten watershed municipalities, the two metropolitan regions and eight local municipalities, and another ten watershed residents solicited through the local newspapers (MTRCA, 1994). The 25-member task force also involved one representative each from the TFBBD, the community group's Friends of the Don for the York region[171], the Waterfront Regeneration Trust, and the Metro Toronto Remedial Action Plan Committee, in addition to the chair of the MTRCA. The inclusion of agency and municipal representatives was intended to provide a direct link to decision-makers and environmental processes (Grandsaull, 1997).

In sum, the interests of various stakeholders were significantly represented within the collaborative process. The TFBBD, as the main body to manage the Lower Don, included representatives from various municipal departments, community groups, businesses, and federal agencies. Similarly, the DWTF included representatives from the whole watershed. This composition provided a chance for each representative to express fully its interests.

- *Access to Resources*

An effective collaborative process ensures that participants are provided sufficient resources. As there were numerous agencies and government levels involved in different aspects of managing the Don, a number of opportunities were available for the TFBBD, DWTF and other stakeholders to access resources, including information and expertise.

Several studies related to the Don were shared among the various stakeholders. For example, the Waterfront Regeneration Trust has prepared a number of studies[172] on site remediation and soil contamination in the Lower Don Lands. These studies have helped the TFBBD and the MTRCA in their work preparing various regeneration plans (Luste,

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[171] In modeling a Council on the original DWTF, the DWRC (1995–Present), included additional representatives from the Friends of the Don East York and the Friends of the Don Headwaters (Gransaull, 1997).
[172] For example, Beak (1994); Campbell (1991); Ibbotson (1991).

1994). Several stakeholders also participated in a workshop[173] about this issue in May 1993 to develop a collaborative approach to soil management in the Lower Don Lands (Gransaull, 1997).

On the other hand, the general public was able to access information about the Don's management process through several sources. For example, a Task Force's tent and display have been set up at a number of community events, and a newsletter has served as a communication tool to keep interested citizens advised of the restoration efforts. The newsletter currently reaches 2,500 individuals[174]. Local media have also served to advise community members on the Task Force' s efforts[175]. Furthermore, the preparation of a teacher's manual for use in the Toronto Board of Education schools, a major accomplishment of the Task Force, reaches young people within the general community. This manual was launched in November 1993 and received considerable media attention; one-half of the funds for this project were provided by the Toronto Board of Education[176].

The stakeholders also had full access to needed expertise with respect to the management of the Don. Although the TFBBD's members did not receive formal training, the City of Toronto's Planning and Development Department has made the expertise of a full time planner and an assistant available to the task force. The department of Parks and Recreation frequently advised this planner, who acted as the task force coordinator on various issues related to the regeneration projects, such as the selection of suitable trees and wildflowers to be planted[177].

The TFBBD was also able to get technical support from an Implementation Advisory group[178]. This group included the Departments of Public Health, Public Works, Parks and

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[173] A workshop on "Lower Don Lands Site Remediation Challenges and Opportunities", organized by the Waterfront Regeneration Trust and held in Toronto on May 25-26, 1993.
[174] Mr. David Stonehouse, coordinator of the TFBBD. Personal communication on August 20, 1998.
[175] City of Toronto Executive Committee (1994: 118), Report No.14 for City Council Consideration at Meeting No.7 on May 9, 1994.
[176] City of Toronto Executive Committee (1994: 111), Report No.14.
[177] Mr. David Stonehouse, coordinator of the TFBBD. Personal communication on August 20, 1998.
[178] City of Toronto Executive Committee (1990: 8.246), Report No.13

Recreation, management services, the City Clerk, Planning and Development, the Healthy Cities Office and the Toronto Harbor Commissioners. Occasionally, The MTRCA, Metropolitan Toronto and other senior governments, as appropriate, were invited to sit on the Implementation Advisory Group to advise the task force on water quality issues (TFBBD, 1994). The Task Force has also solicited the work of consultant services on specific projects and programs and when needed, for example, to launch the Integrative Open Space Study, conducted in 1990. Necessary educational resources in the forms of presentation and workshops to name but a few, were arranged to gain an adequate level of understanding of the Don's management issues, and to develop facilitation skills (Gransaull, 1997).

To summarize, various stakeholders had access to resources, including information and expertise with respect to the management of the Don. While this section examined the access of various stakeholders to the process, the question of sharing decision making remains challenging in order to reach a balance of power amongst stakeholders.

8.2.2.2. <u>Sharing of Decision-making</u>:

As noted previously, the effectiveness of collaborative management is related to sharing in the decision-making process, one that involves all stakeholders, meaningfully. Participatory design and consensus building are among the related aspects that reflect the sharing of decision-making (Borrini-Feyerabend, 1996; Berkes, 1994, McNeely, 1995).

Managing the Don provides a significant example in which sharing decision-making is in clear evidence. Originally based on a grassroots effort, the preparation of "Bringing Back the Don" reflects a participatory design of a collaborative strategy to manage the Don River. The citizens concerned with the Don formed the *ad hoc* group for the Don clean-up and then the Task Force to Bring Back the Don, setting in motion a most impressive effort.

The work of the Don Watershed Task Force was also very much a participatory process in which the emphasis was on consensus building among various stakeholders, agencies, municipalities, and the general public. Early on, the DWTF developed a vision for the Don and the general principles for regeneration, drafts of which were then presented at a public meeting for reaction and comments[179]. The DWTF was then organized into working groups wherein each group addressed an issue related to the achievement of a regenerated Don (MTRCA, 1994). The draft strategy documents were then circulated to agencies, municipalities, and the public for review. Twenty public meetings were held in these subwatersheds to arrive at with a consensus on the final regeneration plans. Different municipal departments and agencies were welcomed at these public meetings (Gransaull, 1997). Facilitation by the DWTF's Chair, a well-respected individual with excellent skills in diffusing tension (Grandsaull, 1997), and by a professional facilitator engaged during the DWTF process, have significantly contributed to the achievement of such consensus, devoid of major conflicts[180].

To be current, it is noted that the TFBBD and the DWTF had become coordinated bodies for consensus building in the creation of Don management strategies. To plan these strategies, the emphasis of the process has been and continues to be on stakeholder involvement in environmental decision-making, monitoring and reporting on progress.

8.2.3. Adaptation of the Institutional Arrangements

The Don River represents a complex institutional and administrative situation. This complexity creates a context of some uncertainty with respect to the proper strategies for managing the river. If collaborative management is to be effective, the institutions in place must be adaptive to this uncertainty. Adaptation, itself, refers to providing a supportive legal framework, a coordinated administrative structure and allocated financial resources (Ostrom, 1990; Berkes, 1991).

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[179] Ms. Adele Freeman, Don Watershed specialist, MTRCA. Personal communication on May 8, 1998.
[180] Ibid, 179

8.2.3.1. <u>A supportive Legal Framework</u>:

The provision of an adequate legal framework that supports the management of the Don is necessary if its collaborative management is to be effective. In Toronto, both provincial and municipal legislation offer a supportive framework for collaborative efforts to manage the Don.

In Ontario, the general public of various local municipalities has the right to be involved in the planning process through "consultation". Following an amendment of the Ontario Planning Act in 1983, local municipalities are required to inform the public fully about planning matters under consideration. It was necessary to organize public hearings to discuss official plans and inform all agencies the municipalities believe may have an interest (Frisken, 1993: 178). This institutionalization of public participation was a marked turning point, as people affected by planning began to have a voice in decision-making (Wolfe, 1994).

Another turning point in this evolution toward more public participation in environmental planning occurred in June 1991, when the Province of Ontario established the Commission on Planning and Development Reform in Ontario (CPDRO)[181]. The goal of the Commission is to:

> ... recommend changes to the Planning Act and related policy that would restore confidence in the integrity of the planning process, protect public interests, better define roles and relationships, focus more closely on protecting the natural environment, and make the planning process more efficient (CPDRO, 1993: 1).

The final recommendations of the CPDRO, submitted in 1993, proposed more accessibility to information, and to make all environmental decision-making forums open to the general public. The Commission also defined recommended more collaboration among various agencies and defined the degree of collaboration that would be appropriate. For example, in the case of watershed management, municipalities would be

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[181] This Commission is also called "Sewell Commission".

required to prepare and adopt policies based on watershed studies. At the same time, the Ministry of Environment and Energy (MOEE) and the Ministry of Natural Resources (MNR), in consultation with the Ministry of Municipal Affairs and conservation authorities (e.g., MTRCA), would also be required to release complementary watershed planning policy documents to assist in proposed planning and management efforts (Grandsaull, 1997). The majority of the Commission's recommendations were adopted in the revised Planning Act in March 1995 (Bill 163).

The adoption of several decrees and amendments provides a number of regions and local municipalities with the needed legal tools to manage the Don. Recently, the MTRCA examined whether local governments had adopted legislation on several practices affecting the management of the Don during the last decade (MTRCA, 1997). These practices were related, for example, to the use of pesticides and fertilizers within the watershed. Two regions and six out eight local municipalities[182] within this watershed have adopted by-laws that approved practices for the reduction of pesticides and fertilizers.

This supportive legal framework also included more complex practices such as the protection of natural areas. For example, the City of Toronto has protected several natural habitats under fairly strict "Environmentally Significant Areas" and "Natural Area" designations[183]. Further, the City of Scarborough has adopted lesser control legislation since 1991, though it is less strict. Most of the natural areas in the city fall within the Environmental Impact Zone, which permits no structures unless it is demonstrated that the natural environment can be adequately protected (MTRCA, 1997). Indeed, these legal frameworks have greatly encouraged local municipalities to naturalize parks and open spaces within the Don watershed[184].

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[182] The two regions are Metro Toronto and York region, while the other local municipalities are the City of Toronto, North York, Scarborough, Markham, and Vaughan. Two municipalities have not adopted such legislation yet (e.i., Richmond Hill and the City of York).

[183] One of the most recognized designations for natural heritage lands is "Environmentally Significant Areas (ESAs). The Don watershed contains 13 ESAs, such as Bakers Woods and the East Don Valley Swamp. The provincial, regional, and/or local municipal governments can designate such ESAs (MTRCA, 1997).

[184] Ms. Adele Freeman, Don Watershed specialist, MTRCA. Personal Communication on May 8, 1998.

Overall, the legal framework for managing the Don was effective, providing the local governments within the watershed with adequate means to address specific and complex issues related to the Don's management. It also offers a supportive legal framework for collaborative efforts among different agencies with respect to the Don management. Further, this legal framework clearly defined the rights and responsibilities of collaborative management. The challenge remains to continuously evaluate how well this legal framework is being implemented and enforced.

8.2.3.2. Coordinated Administrative Structure:

Coordinated efforts of various agencies with respect to the management of the Don were a key element of the collaborative process in Toronto. While various stakeholders were involved in managing the Don, each of them had a clear responsibility within this management process. Their work was complementary in a way that has avoided redundancy of their efforts within the administrative structure in place. Some partnership agreements and informal coordination among various institutional bodies effectively helped in this regard.

Clarifying the roles of various institutional arrangements in place ensures the coordination of their efforts and avoids costly redundancy, as noted. For example, it might seem that the City of Toronto's TFBBD would be made redundant by the DWTF[185]. The question of redundancy might also be raised by the fact that the Waterfront Regeneration Trust was beginning its Lower Don Lands Strategy process in 1993-94. However, the existence of the DWTF has not eliminated the need for municipally based groups like the TFBBD. In fact, the DWTF expanded upon the work of the TFBBD to prepare its regeneration strategy plan for the entire watershed (MTRCA, 1994). Further, the Waterfront Regeneration Trust's Lower Don Lands Strategy was also built on the TFBBD's work in its effort to propose a workable solution to the problems

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[185] Interview with Ms. Adele Freeman, MTRCA, on May 8, 1998.

associated with the Toronto Port, the Ataratiri lands and the mouth of the Don[186]. The role of the TFBBD, on the other hand, was clearly to provide a gateway for local community involvement in these complex processes. The various reforestation and rehabilitation projects implemented between 1992 and 1996 provides evidence in this regard.

The issue of water quality is another example that demonstrates the coordinated efforts within the administrative structure in place; various committees and task forces had as their mandate the improvement of the Don's water quality[187]. These bodies included the Metropolitan Toronto Remedial Action Plan (RAP), reporting to the Canada Ontario Agreement, with respect to Great Lakes Water Quality, the Board of Review and the Don Watershed Task Force (DWTF), reporting to the MTRCA. Each of these entities dealt with a specific mandate within the Don watershed.

The Metro Toronto RAP was a plan applied to all the watersheds, one of which was the Don, that border on the Metro Toronto Waterfront (MTRAP, 1991). It included recommendations relating to management practices, such as water conservation, reduction of storm water run-off, improved agricultural practices and improved maintenance of sewer systems (MTRAP, 1994). On the other hand, the Don Watershed Task Force was dealing with a wider spectrum of issues than the RAP, but only for the Don River watershed. Its task was to develop a Don Watershed Management Strategy to address issues related to water, flora and fauna, public safety, social/community use, land use, and institutional framework (MTRCA, 1997). Both efforts were complementary in developing specific principles to improve water quality within the Don watershed (Grandsaull, 1997).

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[186] The Trust envisioned that the private sector and community-based initiatives would be part of the regeneration effort associated with the Lower Don Lands. See the City of Toronto Executive Committee (1994: 109), Report No.14 for City Council Consideration at Meeting No.7 on May 9, 1994.
[187] Most of these mandates were broader than just improving water quality, and included improving and controlling access; restoring natural habitat and native species of flora and fauna; and providing flood protection and erosion control. (Ms. Adele Freeman, MTRCA, Personal communication).

Partnership agreements have offered significant opportunities for various agencies to coordinate their efforts with respect to the Don's management; the Don Accord is one example that achieved improved coordination among the agencies and municipalities of the Don Watershed. This coordination helped to conclude agreements for the construction and maintenance of facilities that impinged on or were shared by more than one jurisdiction. Some examples included the creation and maintenance of wetlands in the valley on lands owned or controlled by various agencies, and the cost sharing agreement for the continued dredging of the Keating Channel between the City of Toronto, the MTRCA and the Toronto Harbour Commission[188].

Informal coordination, which occurs outside of official meetings and administrative arrangements, also plays an important role in the management of the Don. On different occasions, informal interaction between members of the working groups, within the DWTF, helped to overcome the bureaucracy of the public system (Grandsaull, 1997). Further, several informal agreements were concluded in which private owners within the Don watershed agreed to protect their significant lands in partnership with DWRC[189].

8.2.3.3. Allocated Financial Resources:

Sufficient financial resources are necessary to sustain the collaborative management process. These resources are required to support the institutional arrangements in place to ensure necessary investments are actually made to manage the river. The availability of resources also clearly provides other stakeholders with enough confidence to invest in collaboration activities (Murphee, 1994; Ostrom et al, 1993). The financial resources, which were allocated to the TFBBD, provide a significant example in this regard.

Since its initiation in 1989, the city of Toronto continued to support the TFBBD financially (Table 8.2). During its first year (1989), the City had provided $5,000. TFBBD has used the support it has received from the city to leverage considerable

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[188] City of Toronto City Services Committee (1993: 64), Report No. 7
[189] Ms. Adele Freeman, MTRCA, Personal Communication on May 8, 1998.

"additional" funds, as well as outside goods and services, for its work (Table 8.3). Between 1989 and 1994, the Task Force raised $734,046. The Toronto Harbour Commissioners were willing to match city contributions up to a maximum of $100,000 annually. They provided a total of $40,000 for the Task Force in its initial phase to fund several activities such as the Don Day event and the preparation of the Don River Valley Study[190].

TFBBD also generated approximately $78,792 worth of volunteer labor each year[191]. In addition, companies and organizations have provided a significant amount of in-kind support. The TFBBD has received, for example, communication services from Carder Gray DDB Needham. It has also received staff support from several organizations with whom the TFBBD has co-sponsored projects such as the Evergreen Foundation and Canada Trust[192]. The Province of Ontario has also supported the preparation of several water quality studies. Further, most of the Task force meetings have been held in City Hall[193].

Table (8.2): **Allocated financial resources to the TFBBD from the City of Toronto Operating Budget in the period 1989-94.**

YEAR	AMOUNT ($)
1989	5,000
1990	74,073
1991	111,892
1992	66,181
1993	59,566
1994	58,509
Total	375,221

Source: City of Toronto Executive Committee Report No.14 (1994: 113)

[190] City of Toronto Executive Committee (1990: 8.239), Report No. 13.
[191] City of Toronto Executive Committee (1994: 112), Report No.14 for City Council Consideration at Meeting No.7 on May 9, 1994.
[192] 1994 City of Toronto Executive Committee Report No.14 for City Council Consideration at Meeting No.7 on May 9, 1994 (page 112).
[193] Mr. David Stonehouse, Planner at the City of Toronto and coordinator of the TFBBD. Personal communication on May 6, 1998.

The approach used by the TFBBD was to mobilize resources from various stakeholders on a project-by-project basis. A significant example of such an approach is demonstrated by the leveraged funds for the Demonstration Habitat Wetland project. The TFBBD mobilized about $40,000 in 1993 and another $150,000 in 1994 for this project from governmental agencies, including Environment Canada, the MTRCA, and the Ministry of Natural Resources. Environment Canada has contributed to the funding of the task force under the Environmental Partners Program. Further resources were allocated by the business, for example, Mountain Equipment Cooperative and the DMR Group, not to forget other private donors (e.g., Friends of the Environment Foundation). Furthermore, Metro Toronto accepted the responsibility of funding some of the Task force's projects including the pavement of a bicycle path along the length under Metro jurisdiction[194].

Table (8.3): **Funds Leveraged by the TFBBD in the period 1989-94**.

YEAR	SOURCE	AMOUNT ($)
1989	Toronto Harbor Commission	5,000
1990	Toronto Harbor Commission	74,073
1991	Dennis Mills, M.P. – Free Householder	12,000
1992	Metropolitan Toronto Parks and Property- Trees Hudson's Bay Company – Event Tent	30,700 5,750
1993	Toronto Star – Van Tree Plan Canada – Trees and Shrubs Toronto Board of Education – Teachers' Manual Metropolitan Toronto Parks and Property Others	10,000 8,000 1,400 7,100 45,100
1994	Jobs Ontario Metropolitan Toronto Parks and Property- trees Others	100,000 16,000 419,023
	Total Amount	734,146

Source: City of Toronto Executive Committee Report No.14 (1994: 115)

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[194] City of Toronto Executive Committee (1989: 14389), Report No. 36.

This progressive approach for mobilizing funds by the TFBBD has continued to be the key avenue to financial resources in support of the management projects within the Lower Don. Currently, there are more than 35 organizations and agencies funding the activities of task force (TFBBD, 1998).

To summarize briefly, a succession of legislative changes and regulatory amendments have all impacted to redefine the way governmental agencies function and relate to other stakeholders in managing the Don. Developing new partnerships was the focus of these legal changes to support the collaborative management of the Don (MOE, 1998). The objective was to clarify roles between the province and other levels of government in order to eliminate duplication and ambiguity. Continuous resource levels, allocated by the governmental agencies and mobilized by the other stakeholders, supported the effectiveness of such collaborative efforts to manage the Don.

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Chapter IX

LAKE TIMSAH, ISMAILIA, EGYPT

Ismailia, a medium-size Egyptian city with a population of 270 thousand inhabitants[195], is located 140 km northeast of Cairo along the Suez Canal (figure 9.1). The city is located in an arid, hot region, but a lake within the city, Lake Timsah, moderates its temperature. This unique location and perfect climate made tourism development an important regional industry along the shores of Lake Timsah.

The lake is an attractive, but small (7x8 Km.), body of water which is heavily exploited for navigation, fishing and to tourism and recreation. It is a fragile ecosystem with constricted water-exchange points and the lake as a result is subject to multiple inflows of a potentially hazardous nature.

Recently, the lake's environmental conditions have deteriorated. Its beaches have been greatly polluted due to the disposal of industrial, agricultural and sanitary wastewater effluents into the lake. Further, many species of fish have become extinct as a result of the pollution of the lake, dredging activities and the expropriation of 95 acres of lake area for residential and tourism development.

Recognizing the value of the lake and the need for its protection, a collaborative strategy was implemented to manage the lake, and make progress toward sustainable urban development in Ismailia.

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[195]According to the 1996 census, the population of the Ismailia governorate is approximately 545,000 inhabitants, almost half of whom reside in its capital, Ismailia city (CAPMAS, 1997).

Figure (9.1): **Map of Egypt showing the location of Ismailia**
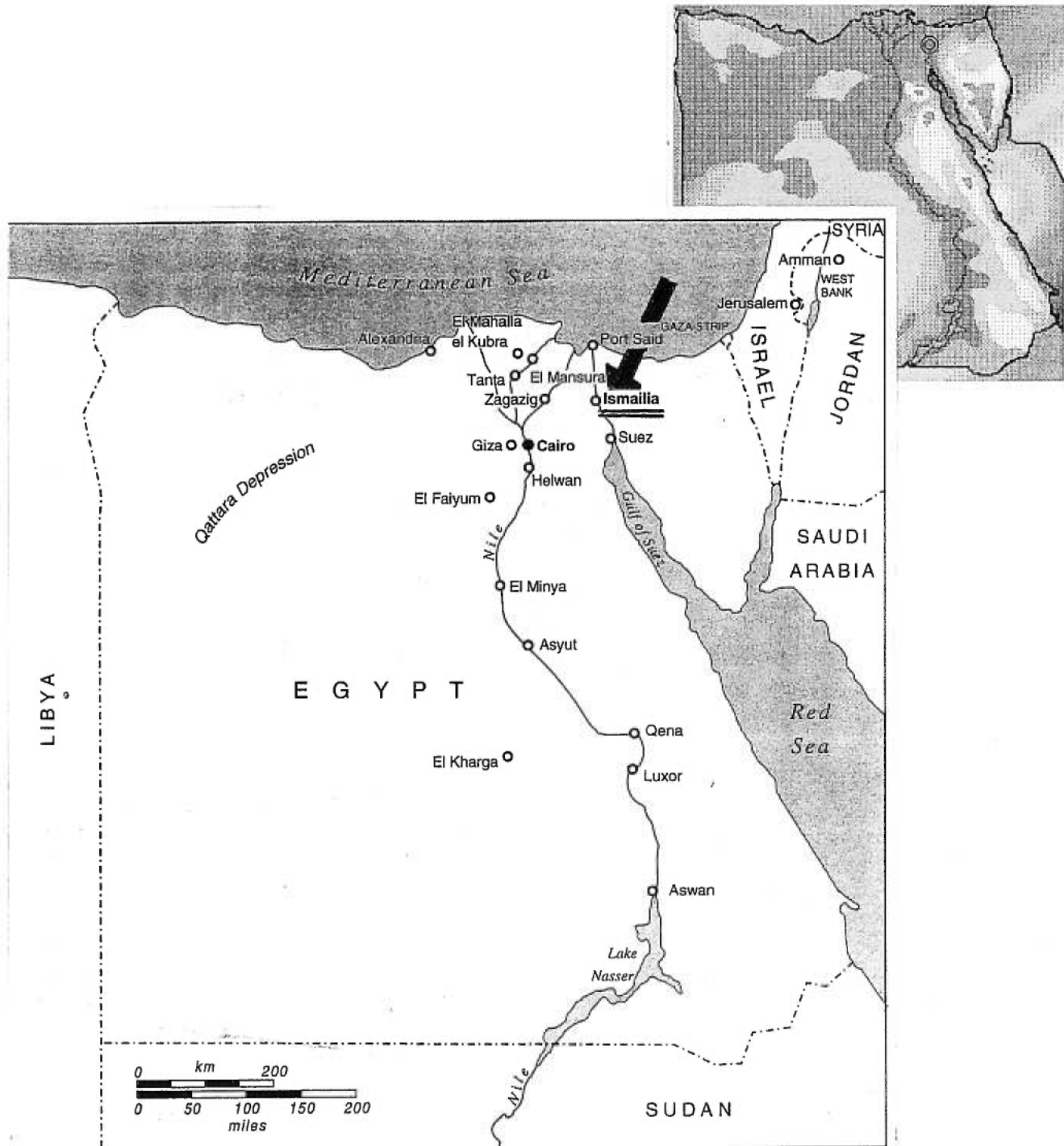
Source: Sluglett et al (1993) in Khoury (1996: 199)

9.1. DESCRIPTION OF THE LAKE TIMSAH CASE

9.1.1. The Context

9.1.1.1. Characteristics of the Lake:

Lake Timsah is one of the most important lakes in Egypt. Historically, it began as a huge natural depression in the middle of the Suez Isthmus to which Nile water flows during high floods, via the Al Tumailat valley[196] (Dweedar, 1994). Currently, it is located at the mid-point of the Suez Canal.

The lake is shaped almost triangularly with elongated sides extending roughly East-West; with a surface area of about 8 square kilometers or 1900 acres and an average depth of only 10 m, it contains about 90 million cubic meters of water. The lake is connected to the Suez Canal pathway[197] from the East, and also interconnected to the Western Lagoon[198] through a narrow outlet at its western side (figure 9.2).

Urbanization in Ismailia began north of Lake Timsah when the Ismailia fresh-water Canal was dug back in 1862. It was called then Timsah village, but increasingly evolved after the Suez Canal was officially inaugurated in 1869 and the engineering administration of the Suez Canal Company was stationed in Ismailia (GOHBPR, 1993).

[196] Generally speaking, Lake Timsah and the Bitter Lakes are the remains of the vast expanse of the Gulf of Suez in the north and; with the Suez Canal pathway, they form a natural basin containing 280 million m3 of water. However, Dweedar (1994) pointed out that when the Suez Canal was dug, Lake Timsah was only a swamp full of weeds and trees, then it was submerged by sea water until it reached its present shape.
[197] The Suez Canal pathway is deep (about 23 m. depth) and narrow (about 200 m. wide). Small islands, which partially separate the waterway from Lake Timsah, restrict water circulation and mixing, forming two different water quality conditions according to a recent monitoring study prepared by the Suez Canal University in 1994-95 (Interview with Mr. Hesham Abdalla, SCU, on August 26, 1997).
[198] The western lagoon is a small, shallow basin of water, partially covered with several kinds of plants. This natural vegetation grows in-groups which have a dominant NW-SE trend. Frequently, Lake Timsah has salinity stratification where it receives brackish water from the western lagoon over-riding its high saline water (SIP, 1994a).

Figure (9.2): **Establishments surrounding Lake Timsah**

COVERED DRAINAGE

S.C.A BEACH

MILITARY BEACH

SAILING CLUB

ROWING CLUB

RAILWAY

FORSAN ISLAND

LAKE TIMSAH

MOSLEM YOUTH BEACH
AL OSRA BEACH
MALAHA BEACH
POPULAR BEACH

HOSTEL
POLICE BEACH
FAYROUZ BEACH
NOURAS BEACH
MIDDLE EAST BEACH
GANDOOL BEACH

S.C.A BEACH

OSMASON BEACH

MILITARY BEACH

TAWON BEACH
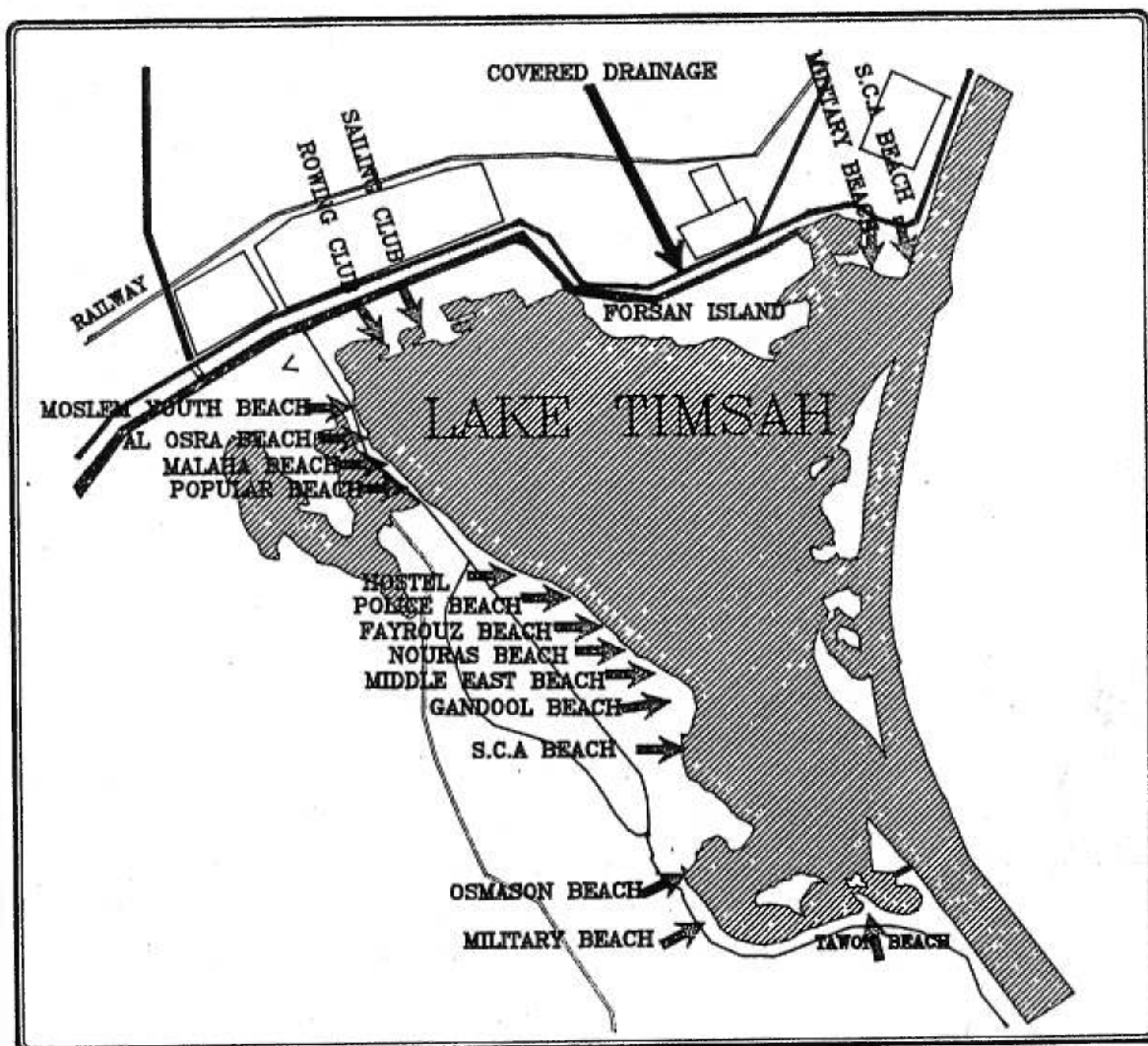
Source: Abdel Aziz (1994)

Lake Timsah plays a significant role in the daily life of the general public in Ismailia. By far, it is the most recreational attraction in Ismailia[199] (SIP, 1994a). Its proximity to Cairo and the Canal cities of Port Said and Suez ensures that it is a year-round attraction for both daily and/or weekend visits. There was a 38.2% increase in the total number of

tourists during the period between 1986-91 (SIP, 1994a). Investments in the tourism sector also increased dramatically in the period 1991-96 and new facilities including clubs, beaches, and hotels were developed (CAPMAS, 1997).

Similarly, a considerable, diverse evolution of industrial activities has taken place during the last 20 years around the lake. The northern part and western bank of the lake are now occupied by several workshops affiliated with the Suez Canal Authority (SCA), the Timsah Shipbuilding Company, the Arab Contractors Company and other private companies for the maintenance of marine units (SIP, 1994a).

Further, Lake Timsah is the site of a large fish production in Ismailia governorate[200]. Most of the fish processing industries in Ismailia depend on this particular form of fisheries development; it should be noted that fishing activities form a significant source of income for several local communities along the lakeshores including El-Bahtimi, to name but one.

This significance of the lake, however, is threatened by the deterioration of its environmental condition. Current urban development patterns, coupled with increased human activity, have led to significant stresses on the lake. Two studies prepared by the Suez Canal University in 1984 and 1993 illustrated this deterioration, affirming that the lake is suffering from increasing pollution levels. For example, it was found that counts of fecal Coliform bacteria (FC) were between 420,000 cfu/ml at a site near the El-Bahtimi drain and 21,000 cfu/ml at a site near the El-Mahsama drain. These amounts astronomically exceed the acceptable ranges identified by the World Health Organization for swimming water which are generally suggested to be less than 100 cfu/ml (SCU, 1995). Among other culprits, untreated domestic and industrial wastewater, as well as contaminated drainage water, are deemed to be the worst contributors to this pollution (figure 9.3). In addition, many tourist facilities overlooking the lake are not connected to

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[199] Following the 1973 war and the start of the rehabilitation program of the canal cities, the importance of the lake was highlighted as a vital tourist attraction along the Suez Canal, reopened in 1975.
[200] 50% of the fish production comes from Lake Timsah and Bitter lakes, 31% comes from fish farms, 9% from canals and drains, and 9% from ponds. The private sector dominates the fisheries' sector accounting for almost 98.5% of fish production (CAPMAS, 1997).

the public sewer network and dispose their solid waste and sanitation wastewater, untreated, into the lake[201]. To compound the problem, large areas of land have been back-filled for additional tourism development. Such interventions have added environmental deterioration due to the infestation of the beaches and the areas around them, as well as a distortion of the fishery's ecology (SCU, 1995); pollution from tourists' facilities is highly concentrated, for example, along the South beach of the lake at El Fayrouz beach.

Figure (9.3): **Sources of pollution in Lake Timsah**

Source: Abdel Aziz (1994)

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[201] There are several areas in Ismailia where sanitation conditions are severe or they have partial access to sanitary drainage networks.

Most of the industrial establishments located along the lake directly discharge their effluents, including heavy metals such as zinc, Cadmium, lead and copper along with oil and grease, without treatment, into Lake Timsah (Atwa, 1997). In addition, an absence of waste disposal management[202] in the Ismailia Industrial Zone results in the disposal of untreated wastes, both organic and non-organic chemicals, and toxic materials such as solvents and cyanide, into the lake. As a result, increasing eutrophication and contamination of the lake has affected fish quantity and edibility, tourism and lakeside residents; health and productivity issues are increasingly reported and linked to the lake's deterioration, among other detriments (SCU, 1995).

The evidence is in that fish production from Lake Timsah is adversely affected by the disposal of solid waste, industrial wastes, sanitary drainage and agricultural drainage into the lake without adequate treatment. Many species have become extinct in the lake due to pollution and dredging; other species are inedible due to absorption of toxic agricultural and industrial chemicals through the water and the waterbed (Atwa, 1997). Some officials suggest that over-fishing is also threatening fish stocks[203]. Pollution and over-fishing are making both threats to fish stocks (Goodie, 1990).

To sum up, although the value of Lake Timsah as an important tourism and recreation resource is well recognized, the lake is subject to increasing pollution from untreated domestic and industrial wastewater as well as contaminated drainage water. As a consequence, these deteriorated environmental conditions have resulted in depressed tourism development and degraded fisheries in Ismailia.

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[202] The main Wastewater Treatment Plant in Ismailia (Abu Atwa) was considered obsolete due to its over loading of more than triple its design capacity. Most of the effluents were directly channeled to "El Mahsama" drain and then in turn to the Western lagoon of the lake. In 1998, this plant was replaced by a new one (interview with Mr. Maher Fares, former head of the wastewater department in Ismailia).

9.1.1.2. Previous Attempts to Manage the Lake:

Following the October War of 1973, then President Anwar Al Sadat, designated the Suez Canal region as a symbol of Egypt's regeneration and peaceful intent. The reopening of the Suez Canal in June of 1975 accelerated the preparation of a reconstruction program for the region. This program included, among other projects, Master Plans for the three main cities in the region: Port Said, Ismailia and Suez (MOD, 1981).

The primary objective of the Ismailia Master Plan (IMP) was to ensure the positive development of the city (Davidson and Payne, 1983). The Plan, which is contained in some 14 volumes, included a comprehensive perspective of the city's development; one of the volumes was dedicated to the "pollution abatement and protection" of Lake Timsah. While the plan succeeded in achieving some innovations in certain areas such as housing[204], significant weaknesses were evident in the case of lake Timsah (Meikle, 1987).

Great disappointment regarding the gap between the contents of the Master Plan and the city's realities presaged the plan's failure. Small achievements have been realized for managing the lake but the Plan itself was unrealistic, too ambitious with regard to government capacities, particularly human and financial resources. In some cases, it completely lacked an understanding of the local economic and social dynamics necessary to prepare a plan relevant to the local situation (Meikle, 1992). For example, the zoning arrangements proposed around Lake Timsah were in conflict with the on-going intensification of tourism development activities in the city (Deweedar, 1994). Clearly, the Master Plan, by virtue of its very grandiosity and despite its comprehensiveness, was entirely inadequate to address the real urban problems in Ismailia, including the deterioration of the lake's environmental conditions (GOHBPR, 1993).

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[203] Mr. Mohamed Ismail, Ismailia Governorate. Personal communication on August 26, 1997.
[204] The most significant achievement within the Plan's framework was the "Hai El Salam" project. In this project, the Egyptian government moved away from direct housing provision towards an enabling approach supporting different agencies, both public and private, and including the informal sector. Innovation was also evident in the form of the administration proposed for the project, which was directly

Other attempts have followed the Ismailia Master Plan: the Structural Plan for the Development of Sinai in 1983, known as the Sinai Studies by Adams Moore Consulting office, and, the Economic maps prepared by the Center for Regional Planning of the Third Region Governorates[205] (CRPTPG). Both studies focused mainly on the economic aspects of the city's development, without giving any attention to the lake's protection (Davidson, 1991).

The rapid urbanization of the city, the heavy demands by its inhabitants for services, as well as the weakness of local institutions to manage the city through these previous approaches have all worsened the lake's problems during the last few years. This situation gave rise to the need for a new approach if the lake was to be rescued.

9.1.2. A Collaborative Strategy to manage Lake Timsah

9.1.2.1. The Initiation of a Collaborative Strategy:

In Ismailia, a new environmental planning and management initiative was begun in 1992. The Sustainable Growth and Development of Ismailia Project, usually called the Sustainable Ismailia Project (SIP), was a UN technical assistance project aiming to achieve progress towards a sustainable urban development in Ismailia. The project document was signed between the United Nations Development Program (UNDP), the Egyptian government, represented by the governorate of Ismailia, and the United Nations Center for Human Settlements (UNCHS) in June 1992. It actually commenced in December 1992

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linked to the local government (the Governorate) in order to bypass the bureaucracy of central government (Khoury, 1996).
[205] Egypt is divided into seven regions with regard to development planning. Ismailia is part of the third region, which includes the two other Canal cities (Suez and Port Said). The first and second regions are Cairo and Alexandria respectively.

(UNCHS, 1997). While UNDP provided the funding for the project, the governorate of Ismailia has acted as the executing authority with the UNCHS as a cooperating agency[206].

The SIP represents the second project to be set up as part of UNCHS's global Sustainable Cities Program[207] (SCP), a program that focuses on city demonstrations to strengthen each city's existing environmental planning and management institutions. Its aim is to provide a shell within which local dynamics can evolve to achieve a sustainable urban development in each targeted city, and then to replicate such achievements on other issues and within other cities, nationally as well as in the region (UNCHS, 1997). To do so, the SCP involves a city-level strategic partnership that focuses on capacity building to provide municipal authorities and their partners in the public, private and community sectors with improved environmental planning and management capacity. Special emphasis is paid to broad-based participation in a cross-sectoral and inter-organizational collaborative process (UNCHS, 1998).

Identification and prioritization of urban environmental issues in Ismailia formed phase one's goal in the SIP project. This phase began with the preparation of a city consultation, and involved preparing an environmental profile of Ismailia as well as identifying key stakeholders. It was also concerned with the preparation of background papers on major thematic issues, one of which was managing Lake Timsah[208].

A Steering Committee, chaired by the governor of Ismailia governorate, and a SIP Technical Support Unit (TSU) were established as part of the project to guide the process (Figure 9.4). While the TSU's role was to provide overall coordination for project activities, the role of the committee was to facilitate the involvement of the different stakeholders in the process and to work out a vision and general strategy priorities[209].

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[206] Mr. Amin Sharkawi, Development and Environment officer, UNDP. Personal communication in July 1997.
[207] The SCP is currently active in over 20 different cities around the world (UNCHS, 1997).
[208] Three additional broad themes were also identified, namely, management of industrial development, agricultural management and land reclamation and urban expansion (SIP, 1994b).
[209] Ms. Habiba Eid, SIP national coordinator. Personal communication on August 26, 1997.

External experts, national and international, also provided further technical support to the project in the preparation of the background papers, the environmental profile and the like.

Figure (9.4): **The institutional framework of the Sustainable Ismailia Project**

FUNCTION

HIGH STEERING COMMITTEE

1. Review strategic plans
2. Prioritize issues
3. Managing resources policies and development

SUSTAINABLE ISMAILIA PROJECT TEAM

1. Transfer information and ensure cross-sectoral and cross-institutional interests are incorporated
2. Brief Steering Committee with progress reports and advise on resource needs
3. Coordinate and monitor progress

WORKING GROUPS

1. Identify the affecting and affected sectors
2. Prepare action plans and projects
3. Undertake pre-feasibility studies for identified projects

SIP TEAM — GOVERNOR — HIGH STEERING COMMITTEE — WORKING GROUPS

Source: Khoury (1996: 204)

A three-day meeting was held in July 1993; in the form of a consultation, it brought more than 60 government officials, academics and private entrepreneurs together to discuss the main environmental issues facing Ismailia, as identified by the Environmental Profile and background papers (SIP, 1993). The presence of the Minister for Local Administration

was taken to indicate a high level of political interest. The consultation concluded and published its findings in the "Ismailia Declaration", a statement that affirmed the crucial need for an ongoing collaborative effort among all stakeholders develop strategies and actions for Ismailia's sustainable development (SIP, 1993). Additionally, it endorsed the formation of stakeholder working groups to address the identified themes[210]. To this end, a working group on Lake Timsah was established to develop strategic plans and identify specific interventions or projects for managing the lake (see table 1: the structure of SIP). The following section describes the various stakeholders, concerned with the lake's management.

9.1.2.2. The Various Stakeholders:

Given the variety of actors, it is not surprising that their concerns and interests with respect to the management of Lake Timsah are widely divergent. This section presents these different stakeholders and illustrates their respective interests in managing the lake.

- *The Governmental Authorities*

a. Central government

The central government is, without question, the most powerful and influential actor in Egypt. Despite several attempts at decentralization during the last 30 years, the State still controls the financial resources, the land and the making and implementation of policies and regulations[211].

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[210] Another two themes were added to the previous four to address the issues of water resource management and human resource development (SIP, 1993).

[211] As an example of this hesitation towards decentralization, the local administration law (Law No. 50 for 1981) has been amended four times. It is believed that the hesitation of the central government to implement decentralization is mainly due to security and political considerations, specifically the fear of losing control of the periphery (Khoury, 1995).

The practice of decentralization within the local urban environment is directed more towards the redistribution of some financial resources and the implementation of basic service projects. While the responsibilities of the governorate and city authorities did increase theoretically "on paper" the formulation, articulation and management of national development objectives and strategies remain under the sole authority of the central government. The result is a centralized State system that provides local authorities with little autonomy and insufficient funds to effectively deal with major urban problems such as environmental issues (Khoury, 1995).

Given the rise in importance of environmental protection on the political agenda, the central government has relied on three basic strategies for institutionalizing this concern. First, the Egyptian Environmental Affairs Agency (EEAA)[212] was established in 1982, and went through several trial arrangements (in 1985 and 1991) in an effort to act as coordinator among government agencies, or among the actors on environmental issues, to guarantee their full participation and cooperation in environmental management strategies[213]. As part of the organizational arrangement of 1991, the EEAA attempted to decentralize its responsibilities by creating several environmental units within the different Egyptian governorates, including Ismailia[214]. Subsequently, a national action plan was developed in 1992 to guide the agency in the execution of specific environmental activities. Further, an environmental protection law was issued in 1994, placing more emphasis on collaboration in the environmental decision-making process and giving the EEAA new executive functions, such as reviewing the required Environmental Impact Assessments (Gomaa, 1997).

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[212] In 1982, presidential decree no. 631 was issued and the EEAA was created.
[213] Dr. Tarek Guenena, director of the Technical Cooperation Office for the Environment at the EEAA. Personal Communication on May 29, 1996.
[214] Two private consulting firms, Euroconsult (The Netherlands) in association with Environmental Quality International (Egypt), took the responsibility of establishing an Environmental Management Unit (EMU) in the Ismailia governorate under a one-year, World Bank contract in 1993-94 (Khoury, 1996).

b. Local government:

In Egypt, the local governments[215] have an implementation role rather than a decision-making role with regard to the urban environment. City authorities usually operate within a context of national policies, which they can rarely affect. Priorities, budgets and programs are set with reference to national development objectives, rather than urban needs (Khoury, 1998). In addition, the local government has no influence on environmental policies, protection plans, management strategies and levels of intervention, all of which are decided by the central government (Khoury, 1996). Further, local departments of centralized ministries and authorities may respond to local initiatives for improved operations and management, but they do not have the authority to commit their agencies to alter their national capital investment priorities and plans[216] (Khoury, 1995)

The institutional framework in Ismailia is complex. The city of Ismailia is administrated by an executive City Council and is represented through an elected Local Popular Council. The city is one of five which make up the Governorate of Ismailia, a Governorate which, through a consultative arrangement with the Governor, the governorate Executive Council and the elected governorate Popular Council, takes most decisions which affect the city and its surroundings. In practice, local administrative power is concentrated at the governorate level.

Although local governments in Egypt depend on central government financing for their major revenues, Ismailia is one of a few governorates that has some autonomy regarding decision-making and the allocation of resources. For example, the governorate has complete power over land allocation and pricing[217], allowing the governorate to collect tax revenues. The reason for this autonomy can be traced to the leadership of the former governor (1988-1994), who demonstrated an impressive negotiating ability with the

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[215] In Egypt, a governorate is primarily a unit of local administration.
[216] The central government's investment projects are presented in a "five-year Plan" in Egypt.
[217] Law No. 7 for 1994 gives full control of public lands to the governorate.

central government and the executive local council[218]. Despite this level of autonomy, however, the governorate remains unable to discharge the conventional municipal activities and services without the help of other governmental authorities and national agencies (Khoury, 1996).

c. National Agencies:

There are three governmental institutions that play a significant role in managing Lake Timsah: the Suez Canal University (SCU), the Arab Contractors Company (ACC) and the Suez Canal Authority (SCA). All three are considered powerful, both financially and in terms of their skilled human resources.

First, the SCU is an educational and research body that focuses an important part of its research on local affairs. Almost 5% of all the research[219] conducted in the faculty of Science at the university has directly focused on problems related to Lake Timsah. In Egypt, the SCU is also considered to be one of the most renowned institutions of higher learning and research, specializing in environmental issues. Such a reputation and focus derives from the creation of an "Environmental Affairs Studies Division" and an "Environment Board" made up of members drawn from all departments of the University[220].

The other two public institutions, namely the ACC and the SCA, are looked to for leadership in the city because of their large financial investments and their involvement in the development of Ismailia. Following the nationalization of the Suez Canal, the Suez Canal Authority was established in 1956 to manage the company, whereas the Arab Contractors Company, one of the largest public construction companies in the Middle

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[218] While the Governor is the nominated representative of the President in the governorate (local provincial government), a different bureaucracy in the central government (e.g. the Prime Minister and the Minister for Local Administration) appoints the members of the executive council (Khoury, 1995).

[219] Between 1985 and 1996, researchers at the faculty of science prepared 330 dissertations (Ph.D. and M.Sc.) on issues related to Lake Timsah (e.g., water quality, sediment analysis, fisheries).

East, gained its reputation from its participation in the Aswan High Dam construction. Both bodies have a great interest in environmental matters, and the two institutions possess good research capabilities in specific divisions concerned mainly with water pollution, in the case of the Suez Canal Authority and soil contamination, in the case of the Arab Contractors Company[221]. In general, most of the senior personnel of these public institutions are involved in various governmental activities at local and central levels, and dominate the executive local council in Ismailia (Khoury, 1996).

- *The Business Sector*

In addition to the State, the business sector in Egypt also plays an important role in environmental management. Since the implementation of the Economic Reform and Structural Adjustment Program (ERSAP)[222] in 1991, the business sector has increasingly influenced the Egyptian economy, in addition to having gained expanded involvement in the decision making process related to environmental matters. The business sector in Ismailia presents no exception to this evolution role.

In Ismailia, the business sector mainly includes investors in the agro-food and electronics industries, and developers in the tourism sector around the lake. Until recently, the environmental problems of the city were not high on their list of priorities. Immediate profit considerations tended to be more attractive than long-term environmental sustainability (Khoury, 1996). Largely ignoring environmental laws in their activities, businesses viewed the government as the actor responsible for environmental protection[223]. The government, for its part, took limited action regarding these

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[220] Dr. Hisham M. Abdallah, USC-Abu Attwa Research Center. Personal communication on August 26, 1997.

[221] Ms. Mona A. Farouk, environmental management specialist, Environmental Affairs Department, Ismailia Governorate. Personal communication on August 3, 1997.

[222] Since 1991 Egypt has embarked on a program of macro-economic stabilization and structural adjustment with the support of the IMF and the World Bank. The objective of this reform program is to continue the transformation of the Egyptian Economy to a market oriented and private by led economy (Khoury, 1998).

[223] Mr. Atwa Mohamed Atwa, the Environmental Affairs Department, Ismailia Governorate. Personal communication on September 3, 1997.

environmental problems, despite the existence of an environmental management plan as part of the Ismailia Master Plan (ARE, 1976). In fact, the government had a limited capability to work concurrently on economic development and environmental protection until the late 1980s [224].

Recently, the adoption of an environmental protection law (Law 4/1994) forced members of the private sector to take serious steps towards compliance with environmental standards and regulations, especially discharges and effluents. Further, the new structural organization of the Egyptian Environmental Affairs Agency (EEAA), required by the new law, included representatives of the business sector. Gomaa claims that this representation involved the business sector in the environmental decision making process on both the state and the society level (Gomaa, 1997).

With the continuing deterioration of the environmental conditions in Ismailia, particularly the pollution of Lake Timsah and its possible eutrophication, developers and investors have recently organized themselves into the "Ismailia Services and Industrial Committee". The purpose of this committee is to discuss problems that jeopardize profits and future development of their businesses. An active role in tackling the environmental problems was finally seen to be mandatory in order to halt further deterioration.

- *The Community Sector*

Certain segments of Egyptian society have established a number of non-governmental organizations[225] (NGOs) to respond to environmental concern, particularly in the Cairo, Alexandria and Giza Governorates (Gomaa, 1997). In Ismailia, however, there are few environmental NGOs, and most of their activities are centered on tree planting and solid waste disposal (Qandil, 1997). These NGOs face several internal and external problems;

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[224] Dr. Emad Adly, LIFE national coordinator. Personal communication on October 12, 1996.

[225] In this context, environmental NGOs are defined as any of those organizations that are part of the government, pursue non-profit aims, and are concerned with the protection of the environment (Gomaa, 1997).

according to Ibrahim and associates, most of these organizations lack the required funding, managerial skills and leadership that would permit them to be effective. Further, the activities of these organizations are restricted and controlled by the Ministry of Social Affairs as legislated by Law[226] 32/1964, a Ministry that reserves the right to supervise the financial, political and social activities of the Egyptian NGOs (Ibrahim et al, 1997).

Two factors have combined, however, to change this situation. The first involves the implication of several international development assistance agencies in enhancing the technical capacity of these organizations. Most of these donors prefer to cooperate with NGOs to escape the inevitably ponderous nature of government bureaucracy (Gomaa, 1997). Among these agencies are the United Nations Development Program (UNDP) through its Local Initiatives Fund for the Urban Environment (LIFE), and the Canadian International Agency for Development (CIDA) through its Canada Fund.

The second factor was the establishment of several national NGO networks such as the National NGO Committee for Population and Development, established in 1993, and the Egyptian Environmental NGO Steering Committee, established in 1994. These committees have provided members of local community groups with some of the training necessary to effectively manage their organizations and organize environmental awareness campaigns. However, the attempt to become more active in Ismailia, such as in the application of pressure towards local council members and specifically regarding environmental concerns, has remained very limited (Gomaa, 1997; Qandil, 1994).

9.1.2.3. The Operation of the Collaborative Process:

Formulation of strategies and action planning to manage the lake took place through a strategic participatory planning process. To proceed, the members of the working group reviewed the existing national and regional plans in order to reveal niches where any

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[226] This legislation has been changed lately by the Ministry in charge and a new law was adopted to provide more freedom to Egyptian NGOs (Law # 153/1999).

proposed interventions could make a difference (UNCHS, 1997). Further, the working group employed several logical framework tools, such as a "problem tree" showing complex cause-and-effect relationship, to introduce a longer time-horizon to planning[227].

Several programs, which focused on two significant strategies, were proposed. First, the emphasis was on recovering the lake from pollution through an intense effort to both treat and then protect it[228]. In this regard, the treatment referred to dredging the lake and airing the western lagoon, where the water was most polluted. Further, the protection of the lake referred to enforcing the existing Egyptian laws pertaining to the protection of waterways, as well as connecting the various establishments along the lakeshore, such as industrial workshops, recreational and public buildings, to the city's sewer network (SIP, 1994b). Most importantly, the need was recognized to focus on finding a sustainable institutional arrangement to manage the lake[229].

The process culminated in an Environmental Strategies Review workshop held in July 1994. During this two-day workshop, the various stakeholders and interested parties discussed the proposed strategies put forth by the Lake Timsah working Group. They agreed on developing issue-specific projects that support the treatment and protection of the lake. They also agreed to investigate any and all alternatives with a view towards establishing a sustainable institutional arrangement within the local administration structure, one that would be responsible for managing the lake (SIP, 1994c).

Implementation of these action plans followed a two-tack process. Short-term actions, characterized by their low cost, high level of consensus and degree of urgency, were implemented using local resources. These actions included community greening and sewering some areas to abate lake pollution with the help of an NGO and the Ismailia Governorate, respectively[230]. The process also included long-term actions which had been

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[227] Dr. Tarek Wafik, coordinator of the working group. Personal communication on July 21, 1997.
[228] Strategy No. 3 (SIP, 1994b).
[229] Strategy No. 4 (SIP, 1994b).
[230] Ms. Habiba Eid, SIP national coordinator. Personal communication on August 26, 1997.

generated by the working group, including capital investment projects for which financial and technical pre-feasibility studies were prepared (UNCHS, 1998). Technically, the process has been supported by the TSU and a consulting firm[231] that helped members of the working group in process guidance, evaluation of strategic options and access to pertinent information related to Lake Timsah (UNCHS, 1998).

The development of these specific projects has gone through several interrelated steps. First, there was a need for detailed and updated information about the actual environmental conditions of the lake. Members of the working group, therefore, asked the Suez Canal University to monitor levels of physical, chemical and biological pollution in the lake. The purpose of this monitoring was to define the carrying capacity of the lake's ecosystem and to identify both critical area and fragile zones (SCU, 1995).

After nearly one year (1994-95), the Abu-Attwa Water Reuse Center provided the working group with results of water quality, numbers of pathogenic bacteria and existing heavy metals concentrations in the lake (SCU, 1995). Based upon the results of the SCU survey study, the working group in collaboration with the consulting firm developed a list of potential projects that might be implemented to improve the lake's environmental conditions. The working group then set criterion involving several elements to evaluate and select those projects which would be endorsed. For example, the selected project needed to have a relationship with existing or uncompleted projects[232] (Chemonics, 1996).

Using a score card technique, consensus arrived at the selection of the Restoration and Preservation of the Lake Timsah ecosystem project[233]. The approach of this project is to deal with one of the major pollution point-sources, "El Mahsama" drainage, which delivers 1.2 million cubic meters of agricultural drainage daily to the lake, including organic waste,

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[231] Chemonics Egypt, a national consulting firm, signed a contract with UNCHS to support the working process of the various working groups of the SIP project.
[232] Among other criteria, one is related to the number of residents that benefit from the project; also, it should be replicable (Chemonics, 1996).
[233] In total, the various working groups of SIP have developed nine projects, Restoration and Preservation of Lake Timsah Ecosystem was one of them.

sewage and fertilizers (Chemonics, 1995a). The main concept of the project was to design and construct a partial treatment, about the third of the total inflow, of the drainage water delivered using sedimentation, biological treatment and aeration in a small segment of the lake's western lagoon (Chemonics, 1996).

The collaborative approach has extended further to involve several national and international agencies in funding the implementation of the proposed interventions. In a one-day consultancy workshop, the TSU informed these agencies about the proposed intervention and asked them to support its funding (Chemonics, 1996). To date, however, little has been implemented with regard to the lake's treatment project.

On the other hand, the issue of institutionalizing the lake's management was addressed from a broader perspective. The SIP established a task force on institutionalization to consider possible options for incorporating the collaborative process in the governorate's structure (Chemonics, 1995c). The task force, which included most of the same stakeholders represented in the Lake Timsah working group, presented an option that was adopted by the governor: the establishment of a broad-based "Council for Sustainable Development of Ismailia" which would be chaired by the governor. It was expected that this council would maintain the momentum of the process by infusing the proposed actions and projects into the capital budgeting and planning routines of the Ismailia governorate (UNCHS, 1998).

9.1.2.4. Achievements for Managing Lake Timsah:

The SIP was originally a two-year project, but a six-month extension was agreed upon and, thus, the project ran for a total of 2.5 years, through to June 30, 1995. During this period of time, the SIP was fully supported technically and financially by the UNCHS and the UNDP, respectively. While several achievements were realized in Ismailia, other challenges related to effective collaborative management have not been addressed.

The core of the SIP was to be found in its emphasis on participatory planning and collaborative management of the lake. A significant intervention of the SIP was to bring together various stakeholders concerned with the lake's management through the creation of various mechanisms such as working groups, city consultations and task force. This intervention was conceived very much as creating and articulating a process, one which could strengthen and operate within the institutional and political context of Ismailia.

A significant achievement of the SIP was the creation of an environmental information database related to Lake Timsah. The preparation of the Ismailia Environmental Profile (SIP, 1994a), which included an important section about the lake, served as the main source of information related to its recent state. Further, the results of the SCU's testing survey have provided additional details concerning the environmental conditions of the lake, particularly its water quality (SCU, 1995).

Although not all the proposed projects have been implemented to date, due to lack of funding, other interventions have also contributed in protecting of Lake Timsah. In addition to the "restoration and preservation" project of the lake (L.E. 7.5 millions estimated cost), there were a further eight projects focusing on related aspects such as solid waste management and the reuse of wastewater. These projects have served to reinforce each other, creating a spectrum of inter-linkages (UNCHS, 1998). The industrial waste treatment project, for example, made the wastewater-reusing project possible, while the wastewater reuse project itself contributed to the environmental protection of the lake by eliminating a considerable amount of potential effluents. Another example concerned broadening the apertures of a number of shallow areas of the lake, taking advantage of natural currents to reduce stagnant areas, and in turn to improve overall water circulation in the lake (Sims, 1995: 10). The SIP has used the existing dredging capacity of the Suez Canal Authority (SCA) in this regard (SIP, 1995).

Other interventions were also accomplished to strengthen the capacity of local municipal staff in Ismailia regarding the integration of environmental considerations into

development planning and management (Sims, 1995). The Technical Support Unit, for example, trained the local municipal staff to set up a graphical mapping capacity to produce analytical as well as presentation maps of the Ismailia area, including Lake Timsah (Sims, 1995). Local staff in Ismailia began to utilize computers to collect information and to improve management; this new capability included the use of satellite images to better locate pollution spots in the lake and build an environmental information database[234].

Recently, inspired by the experience of the Sustainable Ismailia Project (SIP), the city of Fayed, within the Ismailia governorate, has adopted a collaborative management approach in its effort to abate the pollution trends of Bitter Lake (UNCHS, 1997). In addition, further funding from the UNDP has enabled the SIP to extend to a scaled-up, Governorate-wide program, which, among others, aims at replicating the Ismailia experience to four other cities in the Governorate of Ismailia (UNCHS, 1998). This extension also allowed the SIP to update the Ismailia Environmental Profile[235]. Similar initiatives are currently under way in Tunis, Amman and Gaza. Further, a regional conference on strategies for exchange of sustainable development experiences was held in Ismailia on May 20-21, 1998, during which an Arab States Environmental Forum was created to share the experience of Ismailia with other cities in the Arab region[236].

9.2. ANALYSIS OF THE CASE STUDY

In this section, the analysis of the Lake Timsah case follows the pattern defined in chapter six. The emphasis reflects the proposed conceptual framework in this thesis, and focuses on three interrelated key-aspects that determine the effectiveness of collaborative management strategies: the commitment to collaboration; the process of collaboration; and

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[234] Ms. Habiba Eid, SIP national coordinator. Personal communication on August 26, 1997.
[235] Ms. Mona Farouk, Environmental management specialist, Ismailia Governorate. Personal Communication on August 3, 1997.
[236] See <www.unep.org/unon/unchs/uef/uefas98/uefinfo.htm>

the adaptation of the institutional arrangements in place. The analysis uses the data collected from several sources by the three methods identified in section (6.4): documentary information, a survey and semi-structured interviews. Appendix B includes the survey questionnaire, the full survey results, an interview plan and a list of interviewees in Ismailia, Egypt.

9.2.1. Commitment to Collaboration

A commitment from various stakeholders is absolutely necessary if collaborative management is to work. This section examines the commitment of the community in Ismailia and the community's perception of political commitment by the governmental authorities regarding a collaborative approach to manage Lake Timsah. The analysis is based on the results of a recent research survey conducted in Ismailia (July – September 1997), and several observations that took place in 1994-95[237].

9.2.1.1. Community Commitment:

For collaborative management to succeed, participants from the community must acknowledge a need for change. A behavioral change within the community in Ismailia mirrors a transformation and commitment to collaborative strategies. Examining the relationship between environmental attitudes and environmental behavior with regard to Lake Timsah then becomes required.

- *Environmental Attitudes about Lake Timsah*

In general, people in Ismailia have a limited understanding of the "environment". When the survey asked what people understood by the term environment, 57% of the total respondents gave a broad answer related to the "entourage" or "everything around us".

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[237] The author has been involved in the Sustainable Ismailia Project as part of his responsibilities in the Urban Management Program regional office for the Middle East region.

Another 23 % of the sample focused on the human dimension in their answer[238]. Only 20 % of the respondents related the term to "pollution", which is just one aspect in the definition of "environment".

Despite this limited understanding about the environment, a majority (95%) of the survey's respondents in Ismailia has affirmed its concern with Lake Timsah[239]. When asked about the perceived value of the lake to them, 74% of respondents agree that the lake represents an important source of income to them, whether in terms of the related fishery, tourism, navigation, or other. Further, 6 % of respondents stressed the recreational value of the lake, all of whom were men[240]. Another 5% clearly stressed the physical aspect of the lake as a landmark to identify their city and/or their district.

Revealed also is concern about the deterioration of the lake's environmental conditions. Almost two thirds of respondents (59 %) perceived deterioration in the lake's conditions during the last five years, while 38 % of them said that it had maintained its *status quo*[241]. A large number of respondents confirmed an existing strong, negative effect of the lake's deteriorated conditions on their health. Many people suffer serious diseases related to their skin, lungs, and digestive system, as well as Bilharsiozis[242]. As in the overall health picture, women were more likely to report a perceived problem than men, particularly with a concern for their children. The observations in the field site confirmed such assumptions.

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[238] In Egypt, the general use of the word "environment", *"bi'a"* in arabic, reflects the physical and/or the social environment. This situation generates confusion between the meanings. In fact, some people, particularly the less educated, understand social environment by the word: for example, customs and tradition or moral pollution.

[239] On the other hand, only 3 % of respondents were not concerned and another 2% did not know. Gender differences were not striking in this regard.

[240] As a result of cultural traditions within a Middle Eastern society, men often go out for recreation individually or collectively, while women often do it with their families (Singerman, 1997).

[241] Women were slightly more likely to think that the lake's conditions had gotten worse, and men to think it had stayed the same.

[242] Water of the Western Lagoon of the Lake Timsah has a very low salinity ratio which enables the development of Bilharsiozis (SCU, 1995).

The population in Ismailia perceives the deterioration of the lake's conditions very seriously. Those surveyed pointed out the deteriorated water quality (38%), the loss of natural habitat, particularly fish (28%), and the accumulation of wastes and effluents (24%). These answers put the lake at the forefront of the Ismailia people's priorities, in terms of significance.

- *Environmental Behavior towards Lake Timsah*

When asked about the responsibility of the general population in Ismailia to manage the lake, a striking 72 % of respondents perceive no personal responsibility for improving the lake's environmental condition. Most of these respondents said that people cannot do anything, they are helpless, or they have no idea what actions that they can take and/or how to act.

Only 28% of respondents believe that the general population is responsible for improving the environmental conditions of the lake. The emphasis in these answers was on getting themselves to change their own behavior, 12% of the overall sample, and on pressuring various actors, especially governmental authorities, to act: 16% of the overall sample. Not one of the respondents expressed a belief in the possibility of convincing other to change their behavior.

In order to gauge the respondents' reaction, they were asked to whom people would go if they had a problem concerning the lake's management. The people who thought they knew to whom to appeal[243] generally cited one or another governmental office, the Ismailia governorate or the district office, for example. Men were conservative in their answers, because they hold little of confidence in the effectiveness and efficiency of the government. Further, no men and only 3% of women mentioned contacting members of parliament. This answer response brings into question the accountability of members who should be the people's representatives in parliament. On the other hand, when people said

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[243] 51% of respondents, mostly women, knew to whom to appeal.

they would not go to anybody, 25% of the overall sample, this probably indicates a combination of not knowing where to go with lacking confidence that their complaints would result in action[244].

When people reported they could do something themselves, they mentioned contacting the media (8%), acting individually (5%) or collectively (7%). Contacting the television and the newspapers is perceived and is in fact a significant way to pressure governmental authorities as well as raise awareness. Further, 12% of male respondents said they would solve the problem themselves, individually, rather than go to anyone. Paradoxically, 12% of female respondents preferred a collective action, such as cleaning up the lakeshore, collecting money from the general public in Ismailia to hire a truck and remove the waste.

The media, particularly TV, plays a significant role in influencing and shaping the environmental behavior of the general public in Egypt. In Ismailia, 60% of the respondents confirmed that the media is an important source of information on issues related to the lake[245]. Almost 22% of respondents know about the government's efforts to manage the lake, from the media. Another 16% of respondents agree that they also learn about new laws related to the lake, from the media. In addition, 8% of respondents are informed about where to go if they have a problem related to the lake. Through the media, only 7% of the respondents are informed about the achievements of specific agencies or programs, such as the Egyptian Environmental Affairs Agency (EEAA), and the SIP.

In sum, the survey results reveal that people in Ismailia are concerned with Lake Timsah, despite their limited understanding of the environment in general. The lake is at the forefront of their priorities as it represents an important source of income for their

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[244] Ms. Soheir Mehanna, senior researcher, the American University in Cairo (AUC).   Personal communication in November 1997.
[245] Although men and women are equally likely to cite the media in general as a significant source of information about the lake, there is a striking gender difference, but also a similarity, in exposure to the media. While a majority of men say they read newspapers (65%), almost 78% of women say they do not. On the other hand, both men (100%) and women (95%) watch the television daily. In sum, men are more likely to read newspapers, and almost equally as women to watch television as a source of information.

livelihoods, in addition to being a place for their recreation. While they perceive the deterioration in the lake's environmental condition to be serious, they are reluctant to assume responsibility of managing the lake. Instead, there is significant reliance on governmental authorities to do so. As a result, behavioral change toward a collaborative approach is limited with respect to the management of the lake, mostly because the general population of Ismailia does not know what to do and do not feel that solutions and decisions are in their power to effect. Media are among the activators that could play a significant role in supporting any sign of promising behavioral change.

9.2.1.2. Perceived Political Commitment:

Effective collaborative management requires that governments demonstrate leadership and commitment to the idea of sharing decision making. Although the government is increasingly supporting the management of Lake Timsah[246], this political commitment is not a general public perception in Ismailia, particularly with respect to a collaborative approach to manage the lake.

In Ismailia, the first perception of the general population is to blame governmental authorities for their lack of concern with respect to the environmental deterioration in Lake Timsah[247]. The majority of the entire survey sample (74%) affirmed a lack of environmental concern. Indeed, 59% of respondents agree that environmental conditions of the lake are worse than five years ago, compared to only 3% who perceive that things are better.

This perceived lack of concern is also translated into dissatisfaction about governmental efforts to manage the lake. Two of every five respondents were dissatisfied with

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[246] This is affirmed in the National Environmental Action Plan (1992), the various research programs at the Suez Canal University and the recent allocation of resources. Personal communication with Mr. Ismail M. Ismail, the National Democratic Party, in August 1997.

[247] There is recognition that this question has two meanings: who to blame (i) for causing the deterioration and (ii) for failing to correct problems related to the deterioration of the lake's environmental conditions. The answers of respondents reflect both.

governmental efforts to manage the lake[248]. Almost 25% of the sample blame the government in general; some governmental agencies are directly cited for ineptitude, such as the Ismailia Governorate (16%), the fisheries department in Ismailia (10%), the Suez Canal Authority (9%), the Egyptian Environmental Affairs Agency (4%) and the wastewater department in Ismailia (5%). Only 5% of respondents, mostly females, blamed the people themselves without reference to governmental authorities.

The results of the survey provide evidence that the political commitment to manage the lake is negatively perceived. Despite this argument, 48% of respondents are optimistic that political authorities would adopt a collaborative approach to better manage the lake. However, there is doubt that such optimism could help to arrive at effective collaborative management of the lake without full political commitment. The following sections further examine evidence of this negative perception with respect to the political commitment of governmental authorities in Egypt to support the collaborative management of the lake.

9.2.2. The Process of Collaboration

This section examines the planning process as related to the management of Lake Timsah. It seeks to discover the balance of power amongst different stakeholders in order to explore how collaborative management can work more effectively. Two aspects reflect this balance: access to the process and sharing of decision-making (Berkes, 1994; Borrini-Feyerabend, 1996; Innes, 1996).

9.2.2.1. Access to the Process:

If collaborative management is to be effective, it is mandatory to permit all stakeholders to access to the planning process. This section explores two interrelated aspects of access:

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[248] While 40% of the sample agreed that governmental authorities "have done the minimum", 60% of respondents perceive governmental efforts as "nothing" in this regard.

the representation of the different stakeholders' interests within the collaborative process, and access to various resources including funding, training and information.

- *Representation of the Stakeholders' Interests*

Inclusive representation of interests is a key condition for effective collaborative management. This representation provides an opportunity to listen to the different stakeholders, and furnishes an integrated view of the problems with respect to the lake's management as well as the means to solve them (Innes, 1996). In Ismailia, some limitation characterized the representation of the interested and affected parties within the planning process. These limitations were mainly reflected in the overall composition of the Lake Timsah working group and the nature of the city consultations that took place within the process.

Despite a diversified composition of the working group, certain stakeholders were not represented. During its several meetings[249], the working group included representatives of the Suez Canal Authority, the Suez Canal University, the Ismailia Sewage and Wastewater Department, the Environmental Affairs Department at the Ismailia Governorate and the Fisheries Department of the Agricultural Directorate of Ismailia. The army, however, which owns and controls an extensive portion of the coastline of adjacent land, had no representatives in either the Steering Committee or the Lake Timsah working group (Woods, 1994). Further, the composition of the working group lacked representatives of the general public concerned with the lake issues. There were no representatives for fishermen or dwellers from settlements located nearby the lake, for example from El Bahtimi (SIP, 1994c: 8). This absence of representation ensured the process failed to hear critical input from numerous affected communities affected by the deterioration of the lake, and severely limited support for implementation of the proposed interventions (Woods, 1994).

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[249] Between 1993 and 1995, the Lake Timsah working group had met 16 times: 6 meetings in 1993, 5 in 1994 and 5 in 1995 (Sims, 1995: 9).

On the other hand, although city-consultations were widely attended by various stakeholders, the framework of the events themselves was very rigid; it was understood that this rigidity was somehow necessary to give the collaborative process in Ismailia visibility and validity within the Egyptian political and cultural context[250]. This rigidity, however, hindered access by the general public to these "consultations" and served to limit the public's expression of its concerns (Woods, 1994). Sims explained that:

> The presence of important personalities and the consultations atmosphere made most of the events quite rigid and thus did not generate the level of dialogue and interaction which had been hoped for (Sims, 1995: 8).

Although some elected members of the local popular council of Ismailia were presented during these events, there existed doubt regarding their commitment to actually create a critical liaison with the executive of the Ismailia Governorate decision-making body. These members of the local popular council may have their own agenda, creating a lack of trust in their credibility (Radwan, 1994). As a result, members of the local popular council do not always represent the general public effectively (Khoury, 1996).

• *Access to Resources*

An effective collaborative process will ensure participants are provided with sufficient resources such as funding, training, and information. In Ismailia, most of the funds allocated to the operation of the Lake Timsah working group have mainly been provided by the UNDP through the Sustainable Ismailia Project (Sims, 1995). Over the life of this project (1993-95), governmental authorities hesitated to definitevely commit their own resources to support a collaborative approach to manage the lake. It was not until the working group has prepared a specific intervention project, namely the "Restoration and Preservation of the Lake Timsah Ecosystem", that the central government included the lake's management in its recent five-year plan exercise[251].

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[250] Ms. Habiba Eid, SIP national coordinator. Personal communication in August 1997.
[251] Ms. Habiba Eid, SIP national coordinator. Personal communication in August 1997

Similarly, access to training came through the Sustainable Ismailia Project (SIP); over the last several years, a number of international and national consultants provided technical support in areas such as environmental management, information systems and financial analysis, taking the form of in-service training. For example, a short-term international consultant, recruited by UNCHS, provided training to TSU personnel on digitized mapping[252] including software use, file manipulation and map production; this training helped the TSU staff to produce a digitized base map for Ismailia including thematic applications[253]. The two employees trained in digitized mapping are now in great demand, not only for project-related matters, but for general Governorate mapping work and to train other Governorate employees[254] (Sims, 1995). However, it was obvious that training was weighted more toward information systems and technical issues, and less toward capacity building, among other efforts, in management and participatory planning (Woods, 1994).

The working group on Lake Timsah had also access to technical support for its operation via a national consultant[255], who provided the working group, especially at the beginning of the process, with an operational structure and a sense of purpose (Sims, 1995). The consultant was also able to provide, when needed, technical information and expertise in support of the deliberations of this group. The consultant was particularly supportive of strategic planning efforts and the formulation of detailed projects for managing the lake (Chemonics, 1995).

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[252] Mr. Jon Bjornsson was recruited by UNCHS through a subcontract with NSCE of Cairo (Egypt) for a two-month effort as digitized mapping consultant between November 1993 and February 1994. In 1995, he also provided training to the TSU staff.

[253] Mr.Osama Addel Aziz, Urban Planner and Digitized Mapping specialist, TSU. Personal communication August 1997.

[254] The popularity of digitized mapping led to intensive courses now being given by the TSU's own staff to eight employees within the different departments and agencies of the Ismailia governorate (Sims, 1995).

[255] Chemonics Egypt was awarded a contract by UNCHS to provide technical support to various SIP working groups (Dr. Tarek Wafik, Personal communication).

Members of the working group had limited access to information about the lake from governmental sources, which were in most of the cases inaccurate at any rate[256]. This limitation also resulted from the Egyptian bureaucratic culture, one which keeps information within the boundaries of its own agencies. According to Palmer and associates, there are many forces that shape Egypt's bureaucratic culture. The list of such factors certainly includes, among others, low salary levels, ironclad job security, and influence and corruption within the institutional system (Palmer et al, 1988).

Despite such limitations, the working group succeeded in obtaining updated information about the lake's conditions. For example, a subcontract was awarded to the Abu Attwa Water Reuse Center at the SCU to set up and run water quality tests at numerous locations around the lake (SCU, 1995). Testing covered a 12 month period from June 94 to June 95, and the results were disseminated to the members of the working group as well as the general public in a final report[257].

To briefly sum up, the various stakeholders in Ismailia were afforded limited access to the process itself. This limitation was mirrored by the absence of a broader representation of different stakeholders' interests within the Lake Timsah working group and the city consultations that resulted from the initiation of the process. In addition, there existed a lack of governmental funding to support the operation of this collaborative process. As well, limited access to training and information was only possible through the Sustainable Ismailia project (SIP).

9.2.2.2. Sharing in Decision-making:

The effectiveness of collaborative management is related to sharing the decision-making process; this involves all the stakeholders, meaningfully wherein participatory design and

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[256] Dr. Tarek Wafik, coordinator of the lake's working group. Personal communication on July 20, 1997.
[257] Mr. Hisham Mohamed Abdallah, Abu Attwa Water Reuse Center (SCU). Personal communication on August 26, 1997.

consensus building are two related aspects (Borrini-Feyerabend, 1996; Innes, 1996; Pomery, 1995).

As part of the Sustainable Ismailia Project (SIP), the collaborative process to manage Lake Timsah has followed a planning pattern which UNCHS designed for the Sustainable Cities program (SCP). Although the pattern has gained international recognition[258], this type of "blue-print" model was not primarily designed for the Egyptian context. The objective of this model, originally, was intended to achieve mass consensus, one that could facilitate the implementation of any proposed interventions (Woods, 1994). As the stakeholders in Ismailia did not participate in the design of the process, this has had the effect of limiting consensus building with respect to the proper strategy to manage the lake.

In the early phases of the process, the functioning of the working group on Lake Timsah was problematic. Disagreements among members of the working group related to goals and strategies for managing the lake, and the lack of a clear criterion to define the priorities, made it difficult at times to forge consensus among the various participants (SIP, 1994b). Furthermore, several participants were challenged to clearly understand the nature of their roles as representatives of their agencies (Chemonics, 1995b: 10). Some participants attended the meetings to defend themselves or to plead their case, such as the Suez Canal Authority. This defense of agency positions and the resulting evasions of responsibility consumed considerable energy at the beginning of the process, and making it difficult to arrive at a consensus position regarding how to manage the lake[259].

This situation of conflict has slightly altered as the process evolved. As stakeholders and government officials began to put aside the temptation to place blame and recognize that a collaborative understanding of the matter was necessary, they were able to focus on

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[258] While there are many supporters to the planning process that was proposed by UNCHS within the Sustainable Cities Program (Bartone et al, 1994), there are also several opponents for such a process (Hamedi and Goethert, 1997).
[259] Dr. Tarek Wafik, coordinator of the lake's working group. Personal communication on July 20, 1997.

identifying problems, prioritizing them and work on actions to manage the lake (Sims, 1995). The Suez Canal Authority, for example, began to take a much more positive role. Taking the initiative to dredge the lake in order to improve water circulation, the authority installed sewage systems in most of its workshops and buildings[260]. Further, sharing decision making was also limited with respect to specific sectors related to the lake. All decisions related to fisheries management within the lake, for example, remained under the control of the fishery department at the Agricultural Directorate of Ismailia, an agency of the Ministry of Agriculture and Fisheries (Abou El Einin and Desouki, 1997). This hegemony prevented other stakeholders from being involved in decision making with respect to the fishery sector.

In sum, although the various stakeholders participated in the planning process through the working group's meetings, this participation was not translated into an involvement in the decision making process. Stakeholders did not participate in designing the collaborative planning process. Furthermore, building consensus with respect to defining an appropriate management strategy within the process was difficult, indeed, several disagreements between members of the working group occurred in the beginning due to an absence of clear distinguishing criterion for goal definition and strategy determination with respect to the management of the lake.

9.2.3. Adaptation of the Institutional Arrangements

Lake Timsah represents a complex institutional and administrative situation, a complexity that creates a context of some uncertainty as to the proper strategy for managing the lake. Effective collaborative management requires that the institutions in place must be adaptive to this uncertainty; here adaptation refers to providing a supportive legal framework, a coordinated administrative structure and allocated financial resources (Ostrom, 1990; Berkes et al, 1991).

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[260] Mr. Maher Fares, Environmental Affairs Unit, Ismailia Governorate. Personal communication on August 26, 1997.

9.2.3.1. <u>A Supportive Legal Framework</u>:

Although Egypt has had environmental regulations dating back to 1940, they were not comprehensive enough to cover all environmental aspects, especially the management of such natural resources as Lake Timsah. There was, therefore, a pressing need to fill that gap.

Among the various regulations that the Egyptian government has recently adopted, two laws will have significant impact on the lake's management. The first is Law 48 (1982) controlling water pollution in Egypt's waterways[261], including lakes, and regulating water quality through stated standards. Most importantly, the legislation regulates the discharge of liquid wastes, such as those that derive from industrial, agricultural and residential sources in water surfaces, including Lake Timsah (EEAA, 1992). Despite its importance, the enforcement of this law remains problematic since it proposes a phasing system to discharge reductions to meet the water quality standards, one which proved to be unrealistic (Chemonics, 1995b).

The Environmental Protection law, Law No.4 for 1994, is the Egyptian government's attempt to respond to the nation's environmental problems in a comprehensive way. This law helped clarify the legislative and institutional framework surrounding the implementation of the National Environmental Action Plan, prepared in 1992 (Gomaa, 1997). While it solidifies the role of the Egyptian Environmental Affairs Agency (EEAA) as the main coordinating body for environmental management matters, it also opens the door for more participation in the decision making process with respect to environmental planning and management. For example, it allows representatives of non-governmental organizations and private businesses to sit on the board of the EEAA[262].

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[261] In addition to Law 48/1982 for the Protection of the River Nile and the waterways from Pollution, there is also the Ministerial Decree 8/1983 (Executive Regulations for Law 48/1982).
[262] Dr. Emad Adly, LIFE national coordinator. Personal communication on October 12, 1996.

Law 4/1994 also allows for the possibility of having public hearings for projects involving Environmental Impact Assessment (GOE, 1994). In practice, however, this right has limited clout with respect to Lake Timsah due to an Egyptian bureaucratic culture which makes access to information difficult (Palmer et al, 1989). Gomaa explains that:

> EIA statements when applied in the industrialized states were supported by the Freedom of Information Act. This act allows residents of any district access of enough information on any project of its impact on their environment. However, in Egypt, access to information is problematic and sometimes impossible, denying citizens the right to be aware of the impact of environmental projects on their environment (Gomaa, 1997: 44).

While the existing legal framework did little to change this bureaucratic culture, it also prevented the involvement of the general public in the decision making process. Law 32 for 1964, together with its amendments[263], regulates the activities of non-governmental organizations in Egypt. This law gives the central government statutory powers that enable it to intervene in the affairs of NGOs should it choose to do so (Salem, 1990). Such interventions could include control of projects' initiation, striking down decisions by the board of directors or even dissolving the entire board. These rights are rarely enforced by the Ministry responsible, the Ministry of Social Affairs, mainly because the Ministry lacks the managerial competence and the required capacity to seriously pursue the monitoring and control of NGOs (Quandil, 1994). Since this law remains on the books, however, it has a significant negative impact on the participation of the Egyptian civil society in the decision-making process related to development and environment (Salem, 1990). Ibrahim and associates pointed out that "Law 32 continues to reveal the true nature of relations between a domineering state and a civil society it seemingly does not trust"[264] (Ibrahim et al, 1997: 50).

Overall, the legal framework in place for managing Lake Timsah remains ineffective. This impotency is mainly due to its unrealistic nature and its lack of incentives for collaboration, whereas it ought to provide support for collaboration between various

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[263] Presidential decrees No. 932 in 1966 and No. 2222 in 1967

stakeholders, and clearly define their different rights and responsibilities in managing the lake, if it is to fulfill its intention.

9.2.3.2. Coordinated Administrative Structure:

The tendency towards centralization in Egypt limits efforts at interdepartmental coordination. Further, the idea of creating an external body to assist the main institutional structure in place has proved to be problematic.

Limited partnership agreements has been reached to facilitate coordination between the various parties with regard to the lake's management. Following the first city consultation on managing the sustainable growth and development of Ismailia City, held in July 1993, the various participants agreed on a charter entitled the "Ismailia Declaration". This charter defined the general guidelines of a collaborative approach to manage various environmental aspects, particularly the lake, given its importance in Ismailia (SIP, 1993). Despite this initial effort, difficulty was encountered in going beyond these general themes and articulating specific issues that could lead to formal partnership agreements within the administrative structure in place (UNCHS, 1998).

Overlapping of tasks and responsibilities between similar departments is another often-occurring problem with respect to coordination. This holds in the case of Ismailia and is exemplified by the Technical Support Unit (TSU), an external structure that was created in parallel to the existing environmental unit within the governorate structure. The two bodies were set up, theoretically speaking, to assist the Ismailia Governorate in dealing with the technical environmental problems, including those of Lake Timsah; the TSU was perceived to be a flexible body, one that could cut red tape and minimize bureaucracy (SIP, 1994a). This external organ created a sense of tension between the two bodies serving to hinder coordination between them. Indeed, this tension can be directly traced to the wage discrepancy between those who work in Ismailia governorate who are paid less,

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[264]Lately, the Ministry of Social Affairs adopted a new law that the parliament approved in 1999.

the government's scale, and those who work in the TSU who are paid more, the UNDP private market rates.

Lack of coordination among the various bodies of the administrative structure in place caused several conflicts. Continuous conflicting situations between the agencies responsible for the fisheries management in Lake Timsah, namely the Ministry of agriculture and the Ismailia Governorate, exemplifies this lack of interdepartmental coordination. Lately, the conflict on fisheries management also involved the Ministry of Defense, which prohibited night fishing for national security reasons[265]. This decision has never been reversed, threatening the livelihoods of several thousand of fishermen who have traditionally fished at night[266]. Another example of an absence of coordination is the conflict between the Ministry of transportation and the Suez Canal Authority with respect to define responsibility in the area of navigation in the lake, water pollution problems result (Woods, 1994).

Despite these limitations, leadership in Ismailia facilitated the coordination among several agencies within the administrative structure in place. The collaborative process was very fortunate in that both the Governor in power at its initiation[267] and the following Governor[268] saw in the collaborative approach a useful mechanism for coordinating the efforts of various departments within the Ismailia Governorate[269]. Their leadership helped at times to overcome bureaucratic inertia of the existing organizational structures in both the central and the local governments (Khoury, 1996). For example, a governor's executive order has been drafted for the formation of a "Regional Council for Sustainable Development", involving several departments dealing with environmental management

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[265] The Ministry of Defense wanted to avoid any filtration of the Islamic Fundamentalist Movement, a militant opposition movement in Egypt, through the lake to the main land (Abou-El Einin and Desouki, 1997).

[266] Mr. Mahmoud El Amir, director of the Ismailia Fishermen's Association. Personal communication on August 31, 1997.

[267] H.E. Dr. Ahmed Goueilly. Currently, he is the Minister of Trade.

[268] H.E. Abdel Sallam El Mahgoub.

[269] Ms. Habiba Eid, SIP national coordinator. Personal communication in August 1997.

within the Ismailia governorate, such as the departments of Environmental Affairs and Physical Planning (Sims, 1995).

Further, limited coordination was also achieved as a result of the SIP national manager's support. This manager has enjoyed a considerable amount of prestige and respect among the local authorities, a respect which can be attributed to a strong leadership ability gained through long experience in the field of development programs in Ismailia (Khoury, 1996), a leadership that was important to bypass normal administrative procedures. Dredging Lake Timsah provides a significant example of coordinating the efforts of several governmental agencies, including the Suez Canal Authority, the Suez Canal University and the Environmental Affairs Department at the Ismailia Governorate[270]. The question remains whether leadership can sustain coordination between various institutional bodies and allow adaptation to take place.

9.2.3.3. Allocated Financial Resources:

Sufficient financial resources are required to sustain the collaborative management process, resources which are mandatory to support the institutional arrangements already in place to make the necessary investments and manage the lake; the availability of resources would also provide local people with the confidence to invest in collaboration activities (Borrini-Feyerabend, 1996). In Ismailia, the governorate allocated limited resources to sustain the operation of the collaborative process even after several years of external support. Clearly, such limited allocations were not enough to convince local people to invest in collaboration activities.

The UNDP in Cairo mostly financed the SIP project[271]. UNCHS also contributed directly to the financing of various inputs, particularly with respect to training[272]. Overall, external

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[270] Ms. Mona Farouk, Environmental Management specialist, Environmental Affairs Department at the Ismailia Governorate. Personal communication, on August 3, 1997.
[271] These funds came out of the International Projects Fund (IPF).

support to the project amounted to roughly US$ 900,000 between 1993 and 1995, with an average of one million Egyptian pounds per year[273] (Sims, 1995). As aimed at by the SIP, these amounts would be allocated to institutionalize collaborative environmental planning and management in Ismailia and would foster the financial support of local institutions for the collaborative process (Khoury, 1996), however, this support has not resulted.

By the end of the SIP mandate in 1995, no funds were available to sustain the operation of its established collaborative process. To overcome the scarcity of resources, the TSU submitted a request to the Danish Aid Agency (Danida) to take over the funding of the SIP from the UNDP[274]; a total of US$ 385,000 was requested in this regard (Sims, 1995). The request, however, has been denied and the only remaining option was to continue operating under direct funding from the Ismailia governorate[275].

The Ismailia Governorate has made limited contributions to the project since its initiation, and then only in kind; most of the TSU personnel, for example, were on leave from the civil service and would return to positions in local government (Sims, 1995). It was not until the end of the SIP in June 1995, when resources were insufficient, that the governorate became directly involved in funding the operation of this collaborative approach under the pressure of external agencies (UNDP and UNCHS). According to Woods:

> The idea was that if the governorate was to cover the minimal funds required in short term, it would send a clear signal that support is indeed solid and the chances of sustaining the process are good (Woods, 1994: 20).

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[272] UNCHS recruited several international consultants to train the personnel of TSU on digitized mapping and environmental information systems design (Sims, 1995).

[273] The exchange rate was almost stable during the last five years (US$ 1 = L.E. 3.4).

[274] A request was submitted informally in February 1995 to DANIDA, and formally through UNDP/Cairo in April 1995 (Mr. Amin Sharkawi, UNDP, Personal communication).

[275] Mr. Amin Sharkawi, UNDP/ Cairo. Personal communication on July 20, 1997.

A sum of L.E. 200,000 was allocated for this purpose, roughly one fifth the UNDP funding level[276]. Because of the funds it advanced, the governorate wanted to see direct and concrete results with respect to two aspects. First, local funding should contribute to consolidate the institutionalization of the collaborative planning and management approach by making the working group process integral within the governorate' system. Secondly, it was necessary to proceed with the implementation of the proposed investment projects, such as the Restoration and Preservation of Lake Timsah Ecosystem project.

As a result, the TSU team has moved to the premises of the governorate. It is also currently functioning as the technical office of the newly established Council for Sustainable Development within the Ismailia governorate administrative structure (UNCHS, 1998). Furthermore, the funds have also covered part of the pre-construction phase of the proposed Lake Timsah project. This phase included the preparation of a detailed, technical feasibility study, final engineering design and various tender documents. The other part of the L.E. 350,000 estimated cost for this pre-construction phase was sponsored by UNDP as part of the remaining SIP budget funds[277]. Further investments, however, were necessary to implement the proposed project, which would cost an additional L.E. 7,500,000 (Chemonics, 1995a).

The significance of the required amount coupled with the limited funding capability of the governorate[278] made it difficult to support the implementation of the project through local governmental funds. In addition, the local private sector, particularly the tourism developers, was reluctant to support the funding of the project[279]. It was also difficult to support the project implementation through external funding, as donor agencies denied all requests for funding with respect to the proposed project[280]. The remaining option was to look for central government funding. It was only recently that the central government

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[276] Ms. Habiba Eid, SIP national coordinator. Personal communication on August 26, 1997.

[277] Mr. Amin Sharkawi, UNDP/Cairo. Personal communication on July 16, 1997.

[278] This limitation is a result of the Ministry of Planning's control over the governorate's budget allocations (Khoury, 1995).

[279] Ms. Habiba Eid, SIP national coordinator. Personal communication in August 1997.

[280] Mr. Amin Sharkawi, UNDP/Cairo. Personal communication on July 20, 1997.

agreed to allocate the 7.5 millions within its current five-year plan 1997-2002 (GOE, 1997).

Although the collaborative initiative began through external funding, the Ismailia governorate continued to support it through limited resources allocations. While this contribution was not enough to mobilize further local investment to implement the proposed intervention and/or sustain the collaborative process, it has convinced the central government to do so. The question remains if only external allocations, with occasional governmental funding, are provided, without the financial support of local institutions can the collaborative process be sustained.

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Chapter X

SUMMARY OF THE RESULTS

This chapter summarizes the research results derived from the proposed conceptual framework. The results focus on three aspects: the commitment of stakeholders, particularly the general public and the political authorities; the balance of power within the collaborative process; and the adaptation of the institutions in place to support a collaborative management strategy. As suggested in the research, these aspects contribute to the transformation from a traditional to a collaborative planning approach. They are, therefore, factors that define the effectiveness of collaborative endeavors. Given this context, the thesis evaluated collaborative efforts in three case studies. The results of the three cases illustrate various levels of effectiveness with respect to collaborative management efforts: moderate, such as in the case of Mount Royal; high, as in the case of the Don River Valley; and low, in the case of Lake Timsah. The following sections substantiate such an assessment.

10.1.   COLLABORATIVE MANAGEMENT AND STAKEHOLDER COMMITMENT

Several authors stressed the importance of stakeholder commitment in achieving effective collaborative management (Berkes et al, 1991; Ostrom et al, 1993; Wadock, 1989). Research results reveal that stakeholders must first acknowledge the need for change from a unilateral, traditional approach, whether centralization or privatization, to a multilateral collaborative approach with respect to the management of valued natural environments within the urban fabric (Borrini-Feyerabend, 1996). This change is usually demonstrated by taking responsibility for changing daily habits or attitudes, and practices, behavior, so that all the actions of the various stakeholders, whether community or governmental authorities, benefit from these environments.

An optional way to demonstrate this change is to show that political leadership enables the achievement of such a collaborative approach. The real challenge, however, is to retain the commitment of various stakeholders in supporting collaborative management. As pointed out by Innes and Booher, a long-term endeavor which involves trial-and-error in order to learn from the process, has been a key to achieve more effective collaborative management (Innes and booher, 1997)

10.1.1. Community Commitment

Despite a perceived commitment by several stakeholders in Montreal to make the collaborative management process work, the derived outcomes were limited in several ways. Given the crisis context that took the form of an important deterioration in the mountain's environmental conditions, the community had the willingness to support a conservation strategy to manage Mount Royal. This attitude, however, barely changed into a collaborative behavior, despite the help of the media. The limitation was mainly a result of the significant attitude that governmental authorities could/should be relied upon to manage the environment in Montreal. Important evidence of such reliance can be seen in the lack of funds mobilized by the community to match the public money allocated for managing the mountain, for example, the Mount Royal Foundation.

Nevertheless, a limited number of committed individuals and community groups have continued to support the collaborative management of Mount Royal, largely on a voluntary basis. It was expected that these groups, with their volunteer spirit, would "learn-by-doing" at least from their involvement in the consultation process, in order to support the sustainability of the collaborative momentum. Despite the continuity of Les Amis de la Montagne, few collaborative actions were implemented after the adoption of the Mount Royal Enhancement Plan in 1992.

In Toronto, the Don River Valley watershed residents exhibit a high degree of environmental consciousness and responsibility in several areas, according to the survey's results. The mobilization of considerable resources, time, and money is

important evidence of serious community commitment. Several businesses, individuals and community groups have implemented a number of projects in order to improve the health of the Don watershed. The Lever-Pond company[281], for example, donated funds to the TFBBD, and their employees also participated heavily in the Task Force's regeneration projects, such as tree plantings and the creation of Chester Springs Marsh (MTRCA, 1997).

The case of the Don River, therefore, can be seen, basically, to be a grassroots' initiative; such an initiative refers to the many people at the lowest level, organizing to impact decision-making[282] (Korten, 1991). Hough confirms the veracity of such an argument by pointing out that the initiation of managing the Don was primarily based on the environmental activism of the Toronto area community. This positive behavior and community commitment strongly influenced the effectiveness of the collaborative approach to manage the Don.

Evolving from an *ad hoc*, self-organized group to a well structure task force within the administrative structure was the case in Toronto. The TFBBD acted as a watchdog on developments proposed for the valley and made its voice heard if such developments were incompatible with the river's restoration[283]. This role was and continues to be carried out in collaboration with the Waterfront Regeneration Trust and the MTRCA's Don Watershed Regeneration Council (DWRC). Indeed, this collaborative approach helped, and continues to ensure, that resources are maximized and the impact of all interests, working on behalf of the Don, are served.

In contrast, a lack of commitment from the community in Ismailia towards a collaborative approach to manage Lake Timsah was evident. Although the general public was aware of and concerned with the deterioration of the lake's condition, this positive environmental attitude was not enough to generate collective action to manage the lake.

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[281] The company manufactures a range of phosphate-free home detergents and soaps at its plant at the mouth of the Don.
[282] The expression was originally derived from populist movements, especially among small farmers and workers, in the American Mid-West, around the turn of the century (Korten, 1991; Fowler, 1997).

Such behavioral limitation is the result of the cultural and political context in which the general public does not feel that solutions or decisions are in their power to effect as demonstrated in chapter nine of this thesis. Indeed, Woods stated that "the community profile in Ismailia can hardly be too high" (Woods, 1994: 27).

This relatively weak status of the civil society in Ismailia left the government authorities in a controlling position (i.e., Law 32/64). As a result, little activism occurred in order to commit the community to collaborative management strategies. The role of the private sector was not even part of the discourse, consequently, the community was reluctant to mobilize local resources or efforts to support the operation of the collaborative process to implement the proposed restoration project of the lake.

While all three cases face similar environmental stresses, the community in Ismailia has fewer resources to allocate for the collaborative process. The cultural aspects differ in Ismailia, the high illiteracy rate (42%) is a determining factor in the reluctance to mobilize the necessary environmental activism.

10.1.2. Political Commitment

The effectiveness of collaborative management also depends on the political authorities' ability to make and sustain long term commitments (Berkes et al, 1991; Ostrom et al, 1993). The commitment of the governmental authorities in Montreal was mainly sparked as a political trade-off and/or a political mandate. The trade-off was between the newly elected Doré's administration in Montreal and some supporters who were MCM members concerned with Mount Royal. It was also a political mandate imposed on the MCM's political agenda by the provincial government that was advocating decentralization. It was also imposed by the national environmental arena, espoused by a general increase in environmental awareness and the significance of the environment on the political agenda.

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[283] City of Toronto Executive Committee (1994: 118), Report No. 14.

A lack of administrative continuity also diminished the political support for the collaborative management process. For example, changes in municipal administrations in both Montreal and Outremont since 1994 have almost frozen the implementation of the Mount Royal Enhancement plan[284]. This was a result of changing priorities on respective political agendas, and in turn, limited efforts and resources were injected to sustain the process of collaborative management. However, the recent ice storm of January 1998 in Montreal provided a crisis context which helped revive both the community's commitment and that of the political authorities for collaborative management.

The situation was and is dramatically different in Toronto. The high level of community support for a collaborative approach to manage the Don guaranteed a sustainable political commitment for the process. This popular community cause pressured political authorities in Toronto to continuously place the issue high on the political priorities' list. For example, the citizen base of the TFBBD and DWTF, involving several municipalities within the Don watershed, ensured that broader regional strategy is developed with full attention to local concerns and knowledge. Furthermore, although there have been several municipal elections during the last decade, limited changes have occurred in the City of Toronto's support for the TFBBD, as seen in Chapter VIII. According to the MTRCA:

> During the past several years, governments have followed the initiatives of citizens in making the health of this river system a priority, as many grassroots groups have sprung up and become active in restoration projects and advocacy, all the way from the Lower Don to the headwaters (MTRCA, 1994: 24).

Other facts also affirm the prominent support of governments, both local and regional. For instance, the City of Toronto fully supported the activities of the TFBBD. Not only did it allocate an important part of the task force's budget, it also provided the TFBBD with technical expertise. Among the numerous examples of such technical assistance, a city planner from the Planning and Development Department worked full-time as the task force coordinator. The City also created an "Implementation Advisory Group" that included representatives of various City's services, from public health, parks and

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[284] Interviews with Ms. Sylvie Guilbeault, Les Amis de la Montagne, and Ms. Johanne Groulx, Centre de la

recreation, and public works, to provide the TFBBD with the required expertise for implementation of the restoration activities.

In conclusion, the political authorities in Toronto showed leadership in the Don's management. Their real commitment was to enable the TFBBD and the DWTF, as well as the other stakeholders, to assume their responsibilities for managing the Don. This political commitment also determined to empower the people to act on their own, while supporting them with resources such as expertise and funding. Frisken pointed out that:

> Government officials have been careful to emphasize that they have neither the intention nor the desire to impose a plan ... What they are doing is promoting an area wide strategy that will allow for [managing the Don] while maintaining a satisfactory quality of life for area residents. The emphasis is on coordination of the plans of local governments and provincial ministries to achieve mutually agreed-on results; on consultation and collaboration (Frisken, 1993: 170).

In Ismailia, a different context has sparked the hesitated support of the political authorities for the collaborative management of Lake Timsah. The whole process started as an external initiative by outside agencies (UNDP and UNCHS) as part of an assistance development program, namely the Sustainable Cities Program (SCP). Relying significantly on these "aid" packages[285], the Egyptian authorities accepted to support this collaborative strategy, despite its highly centralized internal planning system (Khoury, 1996). At the local level, on the other hand, this process provided the Ismailia Governorate with more visibility and credibility, therefore, the various governors of Ismailia continued to support the SIP. This support from the political leadership was crucial in bypassing many bureaucratic procedures for the survival of the collaborative process, such as, liberating staff from the civil service to join the technical support unit, for example.

However, there was a lack of political commitment to share decision-making. Little has been achieved to enable various stakeholders to reach agreements; the conflict forbidding

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Montagne, on July 20, 1998.
[285] Egypt is the second bigger receiver of aid, after Israel, in the Middle East and North Africa (MENA) region (Cassen et al, 1994; Khoury, 1995; Riddell, 1995).

night fishing in the lake is an indication of this situation. There was little incentive for the representatives of the fisheries department to participate actively in a collaborative process with the fishermen or the members of the Lake Timsah working group, since their performance is not explicitly assessed against the involvement with local groups. Such behavior needs time to become a political commitment for collaborative strategies.

The socio-cultural aspect plays another important role when it comes to Ismailia. Power centralization has always played a major role in the Egyptian society. The high level of centralization of political power conversely affects the relationship of political commitment to collaborative efforts.

10.2. COLLABORATIVE MANAGEMENT AND THE BALANCE OF POWER

Building on Arnstein (1969), Berkes et al (1991), Bass et al (1995) and Borrini-Feyerabend (1996), the balance of power among various stakeholders is defined by their access to the collaborative process and their sharing of decision-making powers within the same process. It is obvious in this research that accessibility to the process by various stakeholders enables a comprehensive representation of their interests and provides them with an opportunity to occur different resources, funding, information, training, expertise and the like (Berkes, 1994; Borrini-Feyerabend, 1996; Innes and Booher, 1997).

It should also be clear that sharing decision making is an essential component in effective collaborative management; it involves all stakeholders meaningfully in the design of the planning and management process (Berkes, 1994). This encourages the different stakeholders to build consensus and arrive at an outcome with respect to the proper strategy that accommodates, rather than compromises, the interests of all concerned (Bass et al, 1995; Pinkerton, 1997). In other words, by encouraging conflicting interests to understand and reconcile their differences, the process builds goodwill and resilience within various stakeholders, such as in the case of the Don. This is in contrast to consultative models that can exaggerate the differences among conflicting interests, as participants adopt extreme positions in hope that a compromise decision will be in their

favor, as in the case of Mount Royal. Further, these consultative models could simply omit the representation of several interests, such as in the case of Lake Timsah.

10.2.1. Access to the Process

In the case of Mount Royal, the City of Montreal attempted to promote a collaborative process in which all stakeholders could participate. There was doubt, however, about representation of the different interests of various stakeholders in this process. Critics against the municipal planning team and the effectiveness of the consultation provide evidence that was presented in this regard. Interests' representation was also hindered by the lack of access to resources, particularly funding and training. While this lack of funding prevented the preparation of further in-depth socio-economic research such as a study on the use of Mount Royal, the absence of training and expertise weakened the municipal staff, in terms of knowledge and experience with respect to participation and consensus building.

In Toronto, the various stakeholders had access to the process and their interests were well represented. The composition of the TFBBD and the DWTF provided an opportunity for different stakeholders to fully express their interests. These stakeholders also had full access to various resources, including funding and information. As there were numerous agencies and government levels involved in various aspects of managing the Don, a number of opportunities were available to support the funding of the TFBBD from the City of Toronto, the Toronto Harbour Commissioners, Environment Canada, and the provincial government.

Further, the structure of the TFBBD, which included an Advisory group from various departments within the City of Toronto, helped to provide the TFBBD's staff with the necessary information regarding the management of the Don. For example, interaction with other agencies such as the MTRCA and the Waterfront Regeneration Trust ensured that several studies on water quality and soil contamination with respect to the Don watershed were shared. Moreover, there was the positive impact of using government

experts to work as an integrated team. They had to subordinate their individual agency mandates to support the objective of the process, in an effort to develop collaborative and balanced solutions.

On the other hand, access to the process by the various stakeholders was limited in Ismailia. This limitation was mainly reflected in the overall composition of the Lake Timsah working group, and the nature of the city consultations that took place within the process. There was also a lack of governmental funding to support the operation of the collaborative process. Further, limited access to training and information was only possible through the Sustainable Ismailia project (SIP). Some external consultants provided short-term training to the SIP staff, however, training was weighted more toward technical issues and less toward capacity-building. On the other hand, finding accurate and updated information about the lake was problematic due to unavailability, inaccessibility and/or inaccuracy. This was mainly a result of the Egyptian bureaucratic culture, one which keeps the information within the boundaries of its agencies (Palmer et al, 1988; Sims, 1995).

10.2.2. Sharing Decision Making

A major challenge in the collaborative process is to ensure that the widest ranges of stakeholders have an opportunity to participate in a meaningful way in decision making. The results of this research show different levels of such participation.

The City of Montreal employed mainly public consultation as a mechanism to involve the different stakeholders in the decision-making process. This procedure mirrored the public hearings of the BAPE in the *"procédure québecoise d'évaluation environmentale"* (BAPE, 1986). The diversity of communication mechanisms used by BCM illustrates the relevance given to the consultation by the municipal authorities. Several press conferences, expositions, brochures, public notices and information sessions were organized and prepared to provide information to clarify the process of consultation, the

different propositions of the preliminary enhancement plan and the modes of participation (Boutin and Francoeur, 1990).

Public consultation is seen as an invitation from a decision-maker, namely the municipal administration, to the general public in order to participate in the decision-making process (Thibault, 1991). To a certain extent, this consultation indicates acceptance and the good will of the decision-maker to be influenced by the public, thus providing the public with limited power to influence the decision-maker (Bass et al, 1995; Pretty, 1995; Borrini-Feyerabend, 1996). Indeed, the consultation operated as a public debate, quasi-open and transparent. Everyone, individuals and groups, was allowed to participate and express their point of view related to future decisions. The points of view usually reflected the interests of various stakeholders. Despite such moderate access to the process, the responsibility of decision-making rested in the hands of the decision-maker, namely the BCM commissioners nominated by the City of Montreal. The question remains whether these commissioners accommodated different views in their final decisions about a plan to manage Mount Royal.

Going beyond simple consultation, the Don's management presented a case in which decisions were reached through consensus within the TFBBD and the DWTF. This approach generally reflected a continuous dialogue and negotiation between equal parties concerned with the management of the Don. It was an open process that allowed individuals and groups to participate in the decision-making process. The preparation of the regeneration strategy plan for the Don watershed is an example of such a consensus-building approach. Signing of the MTRCA's Don Accord was another example that demonstrated the commitment of various stakeholders to share decision-making with regard to the Don management. Furthermore, a recent assessment[286] of the collaborative process used in Toronto with respect to the Don Management affirmed the high level of sharing decision-making amongst the various stakeholders. According to Grandsaull,

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[286] Three years after the preparation of the regeneration strategy plan for the Don Watershed, the DWRC conducted a self-assessment of its achievements. According to the MTRCA (1997: iv), this first evaluation was seen as an important initial assessment of the state of the watershed and our collective commitment to its regeneration. It is also an ambitious but realistic work plan for the next years and beyond".

sharing decision-making made sure that "the process being more closely aligned with ideals of various stakeholders: citizens, environmental groups and agency representatives" (Grandsaull, 1997: 171).

Conversely, sharing decision-making was not the case in Ismailia. Although the various stakeholders participated in the planning process through the working group, this participation did not translate into full sharing in decision-making. Such a limitation was a result of several factors. First, an external agency (UNCHS) initiated and designed the environmental planning and management process of the SCP, no one of the various stakeholders involved in managing the lake participated in its design. Lack of participatory design limited the acceptance of various stakeholders for the collaborative process as a whole.

The limitation of sharing decision making was also a result of the internal functioning of the Lake Timsah working group. Not all of the working group members understood their roles. Some attended the meetings to defend themselves, and/or to plead their cases. Some members even pointed out that having their boss in the working group denied them the opportunity to speak freely[287]. As a result, several disagreements between members of the working group occurred in the process because of an absence of clear distinguishing criterion for goal definition and strategy determination with respect to the management of the lake.

The lack of trust by the general public in the so-called elected local council representatives also weakened the process (Woods, 1994). The decline in the legitimacy of popular representatives, who were even absent from the Lake Timsah working group, was counterbalanced by the ascendancy of their executive counterparts from the government side. This imbalance has facilitated hegemony of and intervention from the government institutions and agencies, allowing little room for the general public and the private sector to be involved in the decision-making process with respect to the lake's management. Radwan was correct when she pointed out that:

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[287] Dr. Tarek Wafik, coordinator of the lake's working group. Personal communication on July 20, 1997.

In the highly centralized Egyptian State, the executive governmental branch dominated decision making. It was the focus of all planning and management proposals whether they originated in the bureaucracy, with influential personalities, or with interest groups, and it was the arena in which all major decisions were made, relatively free of pressures or constraints from the rest of the system (Radwan, 1994: 94).

10.2. COLLABORATIVE MANAGEMENT AND INSTITUTIONAL ADAPTATION

As defined by Ostrom, institutions are the medium through which a collaborative strategy is implemented (Ostrom, 1990). Innes and Booher stressed that these institutions must be adaptable and able to respond to external pressures and/or changing environmental conditions (Innes and Booher, 1997). In other words, institutions must be adaptive to any uncertainty with respect to developing proper strategies for managing valued environments. This research identified three criteria that reflect the adaptation of these institutions to collaborative management strategies: a supportive legal framework, a coordinated administrative structure and adequate financial resources allocations.

Effective institutional adaptation requires that all stakeholders be truly committed to the goals and objectives of collaborative management. Commitment, in turn, is partly a function of their faith and trust that this adaptation will allow them to satisfy their interests. Lack of clear legislation makes the interaction between the different institutions in place, difficult (Mitchell, 1990; Oakerson, 1986; 1992; Ostrom, 1990).

Supportive legislation clarifies the responsibility of different parties, which in turn facilitates the coordination of various collaborative efforts within the administrative structure in place (Flower, 1997; Israel, 1987; Watson et al, 1996). Coordinated administrative structure provides the various parties with an open forum that allows them to accurately communicate their interests and positions to each other in a timely and accurate manner.

Finally, as mentioned previously by Murphee (1994) and Ostrom et al (1993), it is clear that adequate resources are necessary to ensure that institutional adaptation takes place in an effective way. As adaptation takes time (Owen, 1998), the continuity of these resources guarantees the sustainability of such effective collaborative management strategies.

10.3.1. Supportive Legal Framework

In Montreal, the absence of a supportive legal framework prevented some stakeholders from committing more fully to collaboration. Although this framework included some articles to protect the territory of the mountain, such as municipal decree No. 7593 for protected sites, it provided little incentive for the institutions in place to collaborate actively. It appeared that personal commitment rather than a supportive legal framework drove the collaborative initiative in Montreal, hindering its sustainability. Essentially, this means that changes in leadership limited support of the collaborative approach, as was seen in the shift from Doré to Bourque's administration with regard to Mount Royal.

In Toronto, on the contrary, a legal framework provided the local governments within the watershed with adequate means to address specific and complex issues related to the management of the Don. Different municipalities have adopted, for example, legislation with respect to the protection of the natural habitats within the Don watershed. Furthermore, the existing legal framework in the Don case clearly defined the rights and responsibilities of the different agencies within the administrative structure. The Planning Act is an example in which the responsibilities of various parties are articulated clearly. These clear responsibilities helped various agencies involved to collaborate with respect to the Don's management, while adopting lesser control legislation since 1991, such as in the case of Scarborough and York.

The Egyptian case offers a different perspective of legislation, with respect to institutional adaptation. Although the Egyptian government prepared a national Environmental Action Plan in 1992 and adopted a new environmental protection law

(Law 4/1994), these efforts were not enough to generate a supportive legal framework in order to manage Lake Timsah collaboratively. This limitation is the result of the unrealistic nature of this legislation, such as the water quality standards defined by Law 48/1982. It is also limited by the lack of incentives to collaborate. For example, the case of Law 32/1964 prevents Egyptian civil society to be involved in the decision making process, and controls their collaborative activities. Further, environmental Law (4/1994) did little with respect to eliminating the bureaucratic culture in place, which prevents the coordination between different agencies, and in turn weakens collaborative management approaches.

10.3.2. Coordinated administrative Structure

Although several means were used to coordinate the efforts of various municipalities and agencies in Montreal, little has been sustained to coordinate the implementation of the proposed management plan for Mount Royal. Through a joint municipal planning team between two departments in the City of Montreal (SLDC and SHDH) and a formal partnership agreement among the three municipalities, Montreal, Outremont and Westmount, coordination between the various municipal agencies and departments was reached during the planning process. There was, also, the Comité de concertation (CCI) that evolved as the main institutional arrangement responsible for the collaborative management of the mountain (Goyer, 1993). However, the idea of providing this committee with permanent status was abolished. This situation limited the transformation of the committee into a sustainable structure that would support the implementation of the proposed management plan. Furthermore, the rise of conflicts related to priority actions and the absence of a supportive leadership hindered the sustainability of these coordinated efforts with respect to a collaborative management of the mountain.

In Toronto, coordination between various entities within the institutional structure for managing the Don occurred on different levels and through different means. While coordination took place on various geographical levels within the watershed, the Lower and Upper Don and among the seven sub-watersheds, it also occurred on the level of

specific mandates such as water quality matters. The clear understanding of various parties' roles and responsibilities with respect to the Don management helped to avoid redundancy within the administrative structure in place. As demonstrated, the DWTF regeneration plan for the Don watershed was built on the deployed efforts of the TFBBD in the Lower Don. Further, coordination has materialized through formal agreements such as in the case of the Don Accord. It has also been achieved through informal partnerships, as in the case of the various stewardship agreements that were concluded with private owners within the Don watershed to protect their significant lands in coordination with DWRC and their respective municipalities.

In Ismailia, lack of coordination among the various administrative bodies caused several conflicts between the different stakeholders. For example, the absence of a coordinated effort among the national fisheries department, the Ismailia governorate and the army prevented night fishing in the lake, hindering the livelihoods of thousands of fishermen. This limitation is obvious whenever there is an absence of formal partnership agreements between the various stakeholders.

Despite this limited coordination, leadership in Ismailia has helped to bypass normal administrative bureaucratic procedures. Palmer and associates (1988) were correct when they pointed out that, similar to other developing countries, projects and institutions in Egypt are closely identified with who directs them; a strong, visible and politically skilled personality as governor or manager would help significantly in the achievement of an effective collaborative process. This tendency to rely exclusively on the support of such leaders for a coordinated administrative structure is, however, problematic. Although leadership is important, global experience shows that effective collaborative management should be rooted in decentralized authority (Ostrom, 1990; Ostrom et al, 1993). This can not happen from outside, but must be driven from within to ensure the sustainability of a coordinated administrative structure (Oakerson, 1992).

10.3.3. **Allocated Financial Resources**

The City of Montreal has spent more than $10 million on the management of Mount Royal Park during the last ten years. This amount, however, is far from the promised spending of $ 5 million annually since the adoption of the proposed Mount Royal management plan in 1992. There was, additionally, significant fluctuation in spending from one year to another as demonstrated in Chapter seven. Furthermore, promise breaking was all too common, as was the case with the two other municipalities, Westmount and Outremont and public institutions such as the Université de Montréal. In conclusion, adequate resources were never provided, since the City of Montreal and other parties were unable to secure adequate resources or mobilize local funding for implementing the proposed management plan for Mount Royal.

In contrast, continuous financial support by government authorities sustained the collaborative efforts of the TFBBD and the DWTF in managing the Don. Such support served also to provide other stakeholders with the confidence to invest in collaborative management activities. Between 1989 and 1994, the TFBBD was able to mobilize more than twice the amount allocated by the City of Toronto from other stakeholders, including several private businesses, altering a dependency on governmental resources to a more self-reliance, independent situation in which financial resources continue to be mobilized from different sources.

In Ismailia, the collaborative initiative was totally dependent on external funding. Being originally a UNDP / UNCHS "project", it was financially and administratively outside the Ismailia Governorate and any other local institutions in place. These institutions, therefore, supported "the project" through very few resources, mainly in kind. When the "project" came to an end in conformity to a preset deadline that was set by the UNDP, external funding failed to mobilize local investments to sustain the operation of the collaborative process and the implementation of the proposed interventions.

However, further governmental funding was injected into the process when the SIP collaborative structure was later imbedded in the local institutional arrangement in place. The question remains if the collaborative process can be sustained only by external and/or governmental allocations without the financial support of local people who feel that the most strategic, long-term decisions are not in their hands but with governmental or external institutions.

10.4. SYNTHESIS

The results of the research reveal that stakeholders' commitment to collaboration is necessary to reach an effective collaborative effort. Their acceptance and support for collaboration would accommodate rather than compromise their different interests, and balance their power within a shared decision-making process. Therefore, institutional adaptation also becomes necessary to transform the various endeavors towards a collaborative approach, through a supportive legal framework, coordinated efforts and adequate resource allocations. Table (10.1) summarizes the proposed evaluative framework used to define the effectiveness of the presented collaborative efforts.

Commitment to collaboration is essential to achieve effective collaborative management. It is clear that some stakeholders did not believe in collaborative management and shared decision-making. The non-believers thought they could maintain the status quo or they could influence a plan skewed to their advantage. These situations could happen either by freezing the implementation of the proposed plans, such as in the case of Mount Royal, or by withholding consensus and acting outside of the institutional arrangements in place, such as in the case of Lake Timsah. In Toronto, on the other hand, the general community and governmental authorities believed in collaborative decision making with respect to the Don management. Indeed, the case of the Don reflects a grassroots initiative, as previously demonstrated. Therefore, the challenge remains on how to retain the commitment of various stakeholders for collaboration.

Table (10.1):   **A Framework of Effective Collaborative Efforts**

DIMENSIONS	COMPONANTS	INDICATORS	REMARKS
Commitment to Collaboration	Community commitment Political commitment (*municipal, provincial, and / or federal*)	• Attitudes and behavior towards this natural environment • Existing networks • Enabling Role • Availability of leadership • Political continuity and stability • External facilitator	A Common vision about a need for change is to be found in first place The challenge is to retain the commitment of various stakeholders.
Balance of Power	Access to the process Sharing Decision-making	• Representation of interests • Access to resources • Participatory design • Consensus-building • Self-monitoring	The key is to accommodate rather than compromise the different interests
Institutional Adaptation	Legal framework Coordination Financial allocations	• Supporting collaboration • Providing tools for environmental management and clear responsibilities • Partnership agreements • Informal coordination • Supporting Leadership • Continuity • Local investments	External agency cannot alone sustain institutional adaptation.

Effective collaborative management strategies cannot be imposed from above by an external agency. A collaborative process must reflect a balanced and ongoing wide spectrum of interests and perspectives. That was not the case in either Montreal or Ismailia. Despite the initiation of a collaborative process by an external agency, the political authority in Ismailia was reluctant to share decision-making, which is a core element of effective collaborative management strategies.

The principle of procedural equity is an important concern within an effective collaborative process. This principle is rooted in the concept of sustainability. It needs to embrace wider processes of public engagement, where multiple participatory forms of decision-making are brought into play. It is also about balancing decision-making power of various stakeholders. This element helps to foster the access of various stakeholders into a shared decision-making process, and in turn, increase their sense of ownership regarding the reached decisions. The management of the Don River presented a case in which decisions were reached through consensus within the TFBBD. It was an open process that reflected continuous dialogue and negotiation between equal stakeholders, thus allowing individuals and groups to participate in the decision making. Accommodating rather than compromising the different interest of various stakeholders remains a key element of procedural equity.

The enabling role of governmental authorities proved to be essential in achieving effective collaborative management. In Toronto, political authorities also came to appreciate the value of collaborative efforts as an empowering force for governmental agencies, increasing their visibility and acceptability among constituents. Enabling such collaborative initiative to happen through a supportive legal framework and adequate resources was a fundamentally important factor in the success of the collaborative process in Toronto. As an enabler, governmental authorities supplied the motivation for those with traditional, social, political or economic powers to interact with those with less power in a collaborative process to manage the Don River Valley. The various business sector's contributions were evident.

Effective collaborative management attempts are difficult when the institutions in place are neither adaptable nor able to respond to changing environmental conditions. Institutional adaptation in the case of the Don River directly linked the actions of those responsible for degrading the environment with the means for managing and repairing for this damage. Within a supportive legal framework, the need was for stimulating coordination at all levels and targeting the allocated resources to the most effective

collaborative management strategies. The challenge is to maintain this institutional adaptation towards collaborative approaches to environmental management. This is a long-term endeavor that requires much patience, and learning by trial-and-error before these institutions can begin to operate effectively and equitably (Ostrom, 1997).

Effective collaborative results will only occur through a learning process. Learning takes time, and will take place through the willingness of all stakeholders to understand and articulate their own interests clearly, and to listen to and understand the interests of others. Learning-by-doing was a key aspect in reaching the transformative process towards collaboration. This was evident in the case of Toronto, interviews with various stakeholders show that an incremental progress in their commitment as individuals occurred during the collaborative process. Institutions were also more adaptable as they practiced the collaborative efforts with other stakeholders.

In summary, an important benefit of the research results is to focus stakeholders' attention on factors critical to the effectiveness of collaborative management strategies. The presented framework provides criteria of effectiveness to environmental planners so they can adjust management strategies when needed. This framework is more likely to be appropriate if linked directly to the local context and its related goals and objectives.

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Chapter XI

CONCLUSION

This research adds to the working body of knowledge of collaborative management in several ways, accomplishing its goals and ambitions, as well as providing data for future researchers. The major hurdle to overcome en route towards achieving the objectives of this research was involved in gleaning the most valuable contributions from a variety of scholarly works, assessing their respective positions and linking them so that this research could prove its seminal worth.

Prior to this research, no evaluative framework had been proposed that took into account the various dimensions of collaborative management. This research takes the initiation, the operation and the implementation of collaborative management, and through translation into criteria, places these into an evaluative framework. The thesis' task was to assess collaborative efforts on a complex issue, the valued natural environments within the urban fabric.

This chapter provides an overview of these accomplishments, and discusses the conclusions of the research in a broader sense. It also recommends some avenues for future research.

11.1 ACCOMPLISHMENTS

This research argues that sustainable urban development is a process as well as a product. Process in the context of this thesis means a method of planning, making decisions and acting, so as to include all those affected within the process. The product refers to the integrated goal of balancing social, economic and environmental objectives. These objectives are often competing and, therefore, must be reconciled through effective models of environmental planning and management. To improve the effectiveness of these models, they must be subjected to a continuous process of dynamic evaluation and

adaptation. This thesis proposes a model of collaborative management to achieve progress towards sustainable urban development, and provides an evaluative framework as a management tool to evaluate this collaborative model.

While focusing on valued natural environments within the urban fabric, the research shows how the principles of sustainable urban development, such as interconnectedness and inclusiveness, have been crystallized in an integrated approach of environmental planning and management (Chapter 3). The common property resources system is then presented as a model for the explanation and promotion of these principles, such as collective action in environmental management (Chapter 4). However, due to the characteristics of these valued natural environments as complex systems within large urbanized areas, the model of common-property management regime (CPMR) has proven to be inadequate and inapplicable. This model is more appropriately employed when there exists a small number of well-defined users, where livelihoods are often at stake, thus, effective mechanisms for consensus building and conflict resolution are required. The collaborative management model, contrastingly, holds the greatest value when valued natural environments within urbanized areas are examined.

This research presented collaborative management as an appropriate model to manage valued natural environments within the urban fabric. Effective collaborative effort is promoted since it leads to better informed, balanced, and shared decisions. Yet, it also provides flexibility to respond to new experiences because of the understanding and commitment developed among the various stakeholders (section 5.1). Since collaborative management strategies require changes to the way society approaches environmental problems (Borrini-Feyerabend, 1996), only through the evaluation of these collaborative efforts can society assess whether these models are worthwhile, and in fact, preferable to other conventional approaches, such as centralization and/or privatization.

In reviewing the available evaluative frameworks, the research demonstrates that neither *participation* nor *institutions* can separately be the focus of an accurate evaluative framework. Since the research stressed the interrelationship between different dimensions

in modeling collaborative management (section 5.2 and 5.3), the presented evaluative framework centered on the context where the collaborative initiatives took place, the process in which shared decisions were made, and the institutions through which the decisions were implemented.

In light of the case studies, the advocated evaluative criteria have been shown to be relevant and valuable to assess collaborative efforts in terms of procedural equity. These criteria were drawn from both theorists and practitioners such as Arnstein, Bass, Berkes, Ostrom, and many others[288]. The case analyses clearly indicate that effective collaborative management results from community and political authorities' commitment to collaboration, a balance of power among different stakeholders, and an adaptation of the institutional arrangements in place for supporting such a collaborative process. These results should not be regarded as a substitute for, but as a complementary addition to criteria which have been developed elsewhere. For example, Cardinall and Day studied collaborative approaches to environmental planning and management in British Columbia, and concluded that the effectiveness of collaborative management:

> ... will depend on whether or not collaborative management activity provides a forum in which stakeholders are able to clarify and mutually agree upon expectations, to understand the general characteristics of affected social and ecological systems, and to implement needed changes (Cardinall and Day, 1998: 117).

The research acknowledges that cultural aspects pose enormous challenges to the collaborative process and to the commitment of various stakeholders. In the case of Ismailia, the high rate of illiterate or semi-illiterate people made it more difficult for people to be able to choose and make decisions on their own. In some situations, a supportive literate family member was needed to provide informational support to initiate commitment to collaboration.

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[288] As presented in chapter 5, the criteria are derived from several authors such as Bass et al (1995); Berkes (1994; 1997); Berkes et al (1991); Borrini-Feyerabend (1996); Fowler (1997); Innes and Booher (1997); Oakerson (1986; 1992); Ostrom (1990); Ostrom et al (1993); Penrose et al (1998); and Watson et al (1996).

The level of environmental activism is apparently different in Toronto and Montreal. The Anglo-Saxon culture in Toronto influences voluntary work as a means to mobilize financial resources and time in support of the environment. Less voluntary work is seen in Montreal, where there is a majority of Francophone culture.

In the discussion concerning the balance of power among stakeholders within the collaborative process, several key elements proved to be integrated. These elements included the importance of involving stakeholders meaningfully, the provision of adequate information, training, and resources and the need for a shared decision-making to suit the situation at hand.

The research also acknowledges the effect institutions have on the characteristics of decision-making. Institutions need adaptation in order to offer supportive arrangements for an effective collaborative effort. This adaptation may take time, but the end result will be a reduced burden on bureaucracies, contrary to what has happened in Ismailia. Incorporating new institutional structures into existing ones proved to be an important factor to accelerate such an adaptation, as in the case of the Don. Creating partnership arrangements also improved the coordination among various institutions in place. Providing adequate financial allocations is also a significant factor to enhance the collaborative process within these institutions in place. Finally, a supportive legal framework for collaboration proved to determine the responsibilities for those involved in collaborative management.

The research also provides an important lesson concerning the capacity to learn, adapt and continuously improve the collaborative process. This has been observed in the case of the Don River Valley where stakeholders practiced collaboration and learned from their mistakes to progress within the collaborative process. A key element to transform the institutions in place to be more responsive and adaptable to collaborative efforts was the process of learning-by-doing.

Another lesson revealed through this research is that local leadership is essential to encourage collaborative efforts and to enhance an institutional adaptation process. A leader strives to create meaning out of a situation, and to provide a consistent guiding image of collaboration. Leadership helps in building a culture of collaboration that encourages sharing, and promotes reflection for learning. However, leadership is not sufficient separately to provide a reliable and sustainable basis for collaborative action. The national coordinator of SIP Ismailia found it difficult to maintain a collaborative effort without the support of other stakeholders. Thus, exercising leadership requires learning new skills of how to initiate, operate, and structure a collaborative effort within local communities in support of the environment.

Finally, the methodology employed proved appropriate, since the case studies definitively affirm their value to illustrate the different levels of effectiveness with respect to collaborative efforts. Conducting the research according to the conceptual framework, as an open yet structured guide, helped to sort through complex streams of information, and has resulted in assessing different collaborative efforts based on several evaluative criteria. The use of a diversity of research techniques, documentation and interviews, contributed substantially to this outcome, providing the flexibility in collecting the maximum data available, and the exploration of certain issues in greater detail. Few disadvantages associated with the interviews' technique were experienced such as differing degrees of detail provided, and in some cases, the uncomfortable experience for some interviewees in responding to open ended questions. However, the overall advantages previously mentioned more than made up for these limitations.

In short, the research demonstrates that collaborative management has significant potential to support sustainable urban development, particularly if the proposed evaluative criteria are met. The criteria are presented in terms of stakeholders' commitment for collaboration, balance of power among the stakeholders within the collaborative process, and adaptive institutional arrangements. These are all-important preconditions of effective collaborative management that provide a transformative process towards the achievement of sustainable urban development. This transformative

process brings stakeholders together, builds on their individual and group efforts and adds strength to their shared decisions. It also adapts their organizational arrangements and fosters mutual learning. It is not possible, however, to conclude definitively whether or not collaborative management can be functional in all urban contexts, since this appears to depend upon a number of case-specific factors that beg further research.

11.2. IMPLICATIONS FOR PLANNING PRACTICE

It is possible to situate collaborative management, as conceptualized in this research, within the planning domain. A collaborative approach seems contradictory to the comprehensive-rational planning approach which focuses on issues of what constitutes the plan (Healey et al, 1982), and the incremental planning approach which centers on how to plan (Lindblom, 1973). At the same time, it reflects the advocacy-progressive planning approach that argues for planners to work with complex and multiple public interest contexts, and to promote a highly participatory planning process (Davidoff, 1973; Kraushaar, 1988). This comparison mentioned is by no means as simply stated as above.

In this research, there is substantial evidence that such an approach is possible, and is in fact preferable, in dealing with highly complex systems such as valued natural environments within the urban fabric. The analysis of the three cases provides different contexts with respect to planning. There were uncertainties in anticipating the commitment of different stakeholders for collaboration, where the collaborative process was heading, and the resistance it might encounter, and how it might change over the short and long term. While the case of the Don showed an effective collaborative management strategy, a change in this level of effectiveness has occurred recently as a result of the amalgamation of several municipalities within the Greater Toronto Area. This change, for example, may prove critical in the future due to the effects of decreasing governmental commitment to collaborative management.

The collaborative model emphasizes participation, shared decision-making, and facilitated consensus building. These appear to be significant elements within the

contemporary discussions in planning such as in Forester (1989), Friedmann (1992), Healey (1997), Hendler (1993), and several others. These elements are relevant, appropriate and needed in today's uncertain environment[289].

However, this model of planning which is based on notions of inclusiveness and collaboration is in practice difficult to live up to. The results of this research reveal that an expanded role for stakeholders' collaboration in planning has changed the role of planners. These planning practices forge new roles and functions for planners, which requires developing new *skills* such as working in complex environmental and institutional contexts, cross-cultural communication and dispute resolution. Acquiring these new skills means identifying and then finding voices that have been quiet, as in the case of Mount Royal or even absent in the planning process, such as in the case of Lake Timsah. Therefore, planners need to enter into this collaborative process of planning and decision-making with a firm idea of how to interpret the collaboration they solicit. Further theoretical work on the newly emerged roles for planners and the required skills that are critical to their ability to proceed with collaborative management, need to be considered.

Finally, the research presents evaluation as a tool to cope with these uncertainties and provides lessons in dealing with these changing contexts. Innes and Booher argue that:

> The purpose of evaluation is more likely to become that of helping us to adjust and improve what we do, to monitor our performance, and become more reflective (Innes and Booher, 1997: 14)

Evaluation becomes, therefore, a way of improving the feedback element of the planning process. In this sense, the adaptation of the collaborative approach becomes a learning method through which processes such as collaborative management can only benefit. In short, evaluation in this research is advocated to assess whether these emerging

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[289]The theory of Friedmann (1987; 1993) for planning practices accepts complexity and uncertainty as a contextual reality. It argues that the effectiveness of planning is dependent on the level, and the planner's comprehension of this complexity (Friedmann, 1987).

collaborative models are worthwhile and in fact, preferable, to other traditional approaches such as centralization and privatization.

11.3. FUTURE RESEARCH

It is important to consider the possible future research concerning collaborative management strategies. The general conceptual/theoretical framework of the collaborative management model and the criteria of defining and measuring its effectiveness are two principal areas that should be examined.

The extent to which collaborative management redefines environmental planning and management, and the roles involved must be further explored. Since the limits and conditions are only beginning to be tested in studies such as this thesis, collaborative management strategies are on their way to be better understood. On the other hand, to increase the accuracy of the proposed evaluative framework, the detailed criteria with its three interrelated dimensions, namely initiation, operation and implementation of the collaborative process, need to be further explored.

The thesis provided a number of conditions for effective collaborative management. Future research is required for further experimentation with and refinement of these conditions. Testing the proposed evaluative framework on a broader level provides an opportunity to confirm the reliability of the variables and criteria presented.

The emphasis of this research is on the political dimension of collaborative management, it assessed the extent to which citizens' voices were effectively heard. Further research is necessary in the future to assess effectiveness in terms of achieving instrumental goals related to environmental quality. There is a need for indicators of effectiveness in terms of outputs, performance, and results. This assessment will enable planners to discuss, argue, and potentially reach consensus on complementary criteria that determine when collaborative management strategies are appropriate and are likely to be effective.

It is also important to research the obstacles that are likely to impede the progress of collaborative management strategies. For instance, in situations that require rapid decisions and actions, adopting a collaborative management strategy proved to be problematic (Borrini-feyerabend, 1996). It is necessary to further study the situations where, for example, communication and trust among different stakeholders are too difficult to achieve. Another problematic situation is related to the opposition of political authorities to devolve their power, this in turn hinders the adaptation of established institutional arrangements to bring about a progressive change towards achieving sustainable urban development. More research on the obstacles and their implications on the collaborative process is needed.

As for the three case studies presented in this thesis, it is recommended that a comprehensive evaluation of each case study be undertaken to examine the evolution of the process and the implications of fluctuations in the levels of commitment to collaborative management.

Collaborative management does not take place in a vacuum. As the research has argued (section 5.1), examining the context in which the collaborative process emerged is critical for understanding the results of these collaborative efforts. For example, the research clearly exposed the influence of entrenched socio-political factors and structures on environmental activism of the community in question. It also presented the implication of such a socio-political context on the adaptation of the institutional arrangements in place. Moreover, the institutional adaptation is not viewed as isolated from wider political structures as presented in the Egyptian case where a centralized governmental system hindered a collaborative initiative. In short, there is an emphasis on the specificity of local socio-cultural and political particularity. Future theoretical work on collaborative management needs to consider further contextual factors (e.g., local culture, and democracy) that influence its effectiveness.

Leadership is another factor that needs further research. As shown in the three case studies, supportive leadership is correlated with commitment to collaboration either from

the community or the political authorities. It is also essential to support institutional adaptability, since it can facilitate access to resource allocations and coordination of multiple levels and structures. Further research is needed to focus on the role of leadership in shaping progressive change towards sustainable urban development. The key is to assess the role of leadership in advocating effective collaborative management strategies and in enabling various stakeholders to have a sense of "ownership" of change processes.

Finally, more work will have to be done to identify gender specific criteria and indicators. These should be incorporated in the evaluative framework to ensure that gender concerns are taken into account seriously. In some cases, the research recognized the difference in the environmental attitudes and behaviors between men and women. This consideration of gender issues needs to be further developed to ensure that there are measurable indicators in different areas, such as the implications of gender issues on the commitment to collaborative management.

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APPENDIX (A)

Existing Theoretical Paradigms for

Environmental Planning and Management

APPENDIX (A)
EXISTING THEORETICAL PARADIGMS FOR ENVIRONMENTAL PLANNING AND MANAGEMENT

At least three theoretical constructs have enjoyed widespread application in the studies related to the management of the environment and natural resources: ecological, economic, and sociological models. Each paradigm is driven by different assumptions about human nature and activity, about nature itself, and the interactions between humans and nature. Each asks different questions focuses on different goals and has different views and preferred management strategies.

Without reviewing these models, it is difficult to understand how various conceptual frameworks have been employed in many environmental planning and management studies to balance humans with natural environments on a sustainable basis. This part examines how to approach environmental strategies for managing valued natural environments within the urban fabric.

A.1. THE ECOLOGICAL PARADIGM

Ecology is always defined with regard to two main perspectives. First, the holistic model sees the ecology as the study of structure and function of nature (Odum, 1989). On the other hand, the reductionist model defines it as the study of the interrelationships between living organisms and their biological, physical, geological, chemical and geographical environment (McNaughton and Wolf, 1979). Both models rely on the theory of systems. The fundamental starting point for all systems thinking lies in the simple assertion the whole is potentially quite different that the sum of its parts and, therefore, there is a need to consider the whole system and not merely its component parts (Bennett, 1993).

The ecological paradigm adopts a non-anthropocentic view of the relationship between man and nature which sometimes means putting man under nature, such as in the case of Deep Ecologists[1] (Merchant, 1992). The focus is often on non-humans species.

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[1] In its current form, deep ecology is an attempt to synthesize many old and some new philosophical attitudes about the relationship between nature and human socioeconomic activity, with particular

Advocates of the ecological paradigm promote biological and cultural diversity, decentralized planning utilizing multiple value systems, a non-dominant technology, and more use of traditional / indigenous management and technological systems (Berkes, 1989; Pepper, 1996; Thomashow, 1996). Indeed, many systems analysts of environmental resource management see technological fixes as usually leading to larger and more intractable problems (Colby, 1990). They recognize that most natural systems are self-regulating, and that the best managerial strategy is often to leave them alone.

Following this belief, there are two main types of management: *single-species* and *community* management. Traditionally, managers have focused on single-species management, however, community management with its concept of biodiversity has become more popular in recent years. The aim of both types remains the survival of species and maximum reproductive success[2] (Fisher, 1995).

A.2. THE ECONOMIC PARADIGM

The dominant contemporary sense of economics is described as the study of allocating the resources available to society in a way that brings the greatest benefit to most people[3]. In turn, the economy is simply seen as a mechanism that allocates scarce resources amongst competing uses (Knight and Bates, 1995).

Advocates of the economic models for environmental management retain their faith in the idea of progress as measured by economic well-being and, when in trouble, "they readily seek a "technofix" from materialistic and mechanistic approaches" (Beavis, 1994: 155). Nature is seen in this paradigm as existing for man's instrumental benefit, to be explored and manipulated in a way that could improve the material quality of human life[4] (Pepper,

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emphasis on ethical, social and spiritual aspects that have been downplayed in the dominant economic world view. See Merchant (1992), Devall and Sessions (1985), and Pepper (1993; 1996).

[2] See some examples of managing forests, grasslands and wildlife with regard to the two types of ecological management in Fisher (1995).

[3] This is a common neoclassical definition of economics. See Colby (1990).

[4] At its most basic, the economic paradigm treats nature as an infinite supply of physical resources (e.g., raw materials, energy, water, soil, and air) to be used for human benefit, and as an infinite sink for the by-products of the development and consumption of these benefits in the form of various types of pollution and ecological degradation (Boulding, 1966).

1993; 1996). It is only when humans find an economic use for a resource that they will support its management[5].

This type of man-nature relationship is common to both relatively decentralized, capitalist economy models, and centrally planned, Marxist economy models. Their ultimate goals are much the same (Campbell and Fainstein, 1996). Both capitalism and communism have visions of infinite economic growth and human progress. Furthermore, both models advocate strategies for environmental management having the purpose of increasing man's power to extract resources and production from nature, and/or to reduce the negative impacts of nature's variability on society. A prime example is modern agriculture, which in order to solve the basic problem of hunger, replaced natural nutrient cycles with chemical pesticides and sophisticated biotechnology techniques[6].

However, these two economic models differ in their management strategies. Examples of these differences are in responsibility for governance and design of activity (i.e., individuals versus the state), and the type of mechanisms used and promoted as most efficient and/or desirable to achieve such strategies (i.e., market mechanisms versus state control) (Munasinghe, 1993).

This logic poses little problem as long as the rate of demand for natural resources and ecosystem services do not exceed nature's capacity to provide them. Since this capacity was assumed to be infinite, the primary limiting factors of production are perceived, in both neoclassical and Marxist economic models, to be human labor and man-made capital (Colby, 1990).

The major problem with the economic paradigm arises from an important difference in vulnerability to ecological degradation in some ecosystems. The resource depletion and

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[5] According to the economic paradigm, the environment is seen as an asset that provides material or energy resources to drive production and consumption activities within the economic system. As a result of these activities, waste products are formed and are then returned to the environment as pollution. The environmental management concern thus reduces to two components, one dealing with resource use (or misuse, depletion, and scarcity) and one dealing with pollution or generation of waste residuals. Following this logic, resolution of the environmental management problem can be attained through (i) appropriate or wise resource use and (ii) reduction of pollution . However, this conceptualization is not complete. Human activities impose a range of stresses on the ecosystem (as seen earlier in this dissertation), not simply the drawing of resources and the generation of pollution (Hodge, 1995).

[6] See several articles which include various examples related to economics and environmental issues on the web site [http://ideas.uqam.ca]

ecological destruction going on in some nations is in many cases irreversible on a human time scale, such as the destruction of tropical forests in the Amazon (Fearnside, 1997). Therefore, as ability to manage natural environments will not advance very far using only economic models. A gradual transformation to integrate other constructs and a more holistic approach are necessary to find a suitable framework to manage valued natural environments within the urban fabric (Van der Bergh et al, 1994).

A.3. THE SOCIAL PARADIGM

Sociology has been deeply influenced by the Western culture in which it originally developed[7]. Similar to economics, sociology is within the context of this anthropocentric and optimistic dominant Western view where sociology took root. Sociologists - regardless of their particular theoretical persuasion (functionalism, Marxism, interactionism, etc.) - adopted the assumption that ongoing technological development, economic growth and progress are the normal state of affairs and can be expected to continue indefinitely (Dunlap and Catton, 1994). This shared image constitutes a paradigm that is anthropocentric, technologically optimistic, and profoundly unecological (Newby, 1991).

It is not surprising that mainstream sociologists were slow in recognizing the significance of environmental problems. The perspective of such a paradigm assumes that humans will be able to solve whatever problems arise. This belief leads sociologists to seek the causes of social change solely in terms of social phenomena (factors within the realm of human influence) and blinds them to the potential constraints of environmental phenomena such as natural environments or climate change (Jones, 1990; Miller, 1991).

However, spurred by increased societal attention to urban decay, pollution, resource shortages, etc., a number of sociologists did begin to examine environmental issues. There were, for example, studies of public attitudes toward environmental issues, problems faced by resource management agencies and so forth[8] (Benton, 1991; Newby, 1991; Stren et al, 1992; Yearley, 1991). The emphasis within these issues is on two main themes: (i) power and its socio-political models (group theory, the rational choice paradigm, and

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[*] Some merit should also go to the Arabs for developing certain primarily principles of sociology. e.i. Ibn Khaldoon.

elite/conflict models), and (ii) behavior within the society and its socio-psychological model (social psychological constructs of attitude formation). Each model has its own focus and its related management strategies. The following are certain social models relevant to this dissertation (see Table A.1).

Table (A.1) : **Different Models of the Social Paradigm**

MODELS	FOCUS	STRATEGIES
• Socio-Political models		
- Group Theory	Relationships among various interest groups.	Capture or co-optation among interest groups.
- Elite / Conflict Model	Role of the élite in achieving public purposes.	The balance of power among different actors in the society.
- Rational Choice Theory	Challenging State control in environmental management.	Institutional Reform within the public sector.
• Socio-Psychological models		
- Behavior. Attitudes & Actions	People's attitudes with regard to the environment and natural resources.	Relationship between attitudes and actions.

A.3.1 **Socio-Political Models**

a. Group Theory:

This is the most frequently employed theoretical construct in environmental planning and natural resources management. Group theory, as employed here, is the close understanding of interests related to, and analysis of the relationships found among, a specific group, the relevant local actors and the appropriate governmental agencies in the development of environmental policy, planning and management.

The emphasis is on investigating sustained relations in the allocation of environmental resources among various interests' groups. This implies that the main question asked is

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[8] This even gave birth to the "environmental sociology", defined as the study of societal-environmental interactions (D'Antonio et al. 1994).

about why some groups obtain significant benefits and other groups receive relatively fewer benefits. The searched relationship is described as an iron triangle. The geometry can grow in complexity if different groups and agencies are added so that it ends up with a "web" (Miltin and Satterthwaite, 1995)).

The "web" model implies a mutuality of interests and a rough balance of power among various groups. The two principal variations of this relationship that may occur between interests' groups are capture and co-optation. The capture perspective offers a clear domination by one group over the others. The co-optation[9] phenomenon mirrors the support of an interest group to the goals of another group. In addition to these two extreme variations, some ideas are gaining ground recently. For example, Vig and Kraft (1994) support the introduction of new groups into the process of planning and management for the allocation of resources. Moreover, Baumol (1988) advocates more fragmentation in the decision making process to facilitate entrepreneurship which increases the motivation for risk taking and innovation (Mattingly, 1995).

b. Elite / Conflict model:

This model is built on the assumption that, in any allocative decision involving natural resources, allocative benefits will principally benefit an elite. Similar to the capture model within the group theory, advocates in this tradition often criticize resource use decisions for being made by groups acting according to their preferences and interests. For example, Blair (1996) studied water management in some urban centers in India. He argues that the requirements for funds and expertise to develop environmental resources generate hierarchies strongly inclined to provide for the better off at the expense of the less well off.

Yet, there are also some contrary indications here. Opponents emphasize that the concentration of capabilities in a few actors may increase the likelihood of successful collective intervention to manage the resource in question. Wade (1986:249) argues that

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[9] Co-optation is usually found as a concept with analytical force in the public administration literature. It reflects the phenomenon of an agency successfully securing the support of an interest group for agency goals. See, for example, D. Mazmanian and J. Nienaber (1979) in *Can Organizations Change? Environmental Protection, Citizen Participation and the Corps of Engineers*. They pointed out that conscious of shifting political currents during the 1970s, the agency has shifted from support for dam

élite dominance is helpful in his councils for managing the commons, because élites, having more at stake, are willing to put their superior personal resources to work at making the management regime succeed. Similarly, Chambers et al (1989:163) point out that, in some cases, interests of élites and poor can coincide sufficiently to manage the commons successfully. Boston is a case in point wherein "the commitment of the élite to the city has helped in maintaining many natural spaces within the disarray of the urban chaos" (Domosh, 1996: 148).

c. Rational Choice Theory

This model finds broad acceptance in the environmental planning and management field because of the simplicity of its assumptions and the breadth of its generalizability. It is mostly about a critique of natural resources planning and management in the public sector by the State. The work of Baden and Stroup (1981) is particularly notable in this regard. In the same vein, Dennis and Simmons (1986) offered a sustained critique of the limitations if not the distortions of public management of natural resources.

This model emphasizes the risk of certain bureaucracies staffed with a specific group of individuals who are seeking to maximize their share of environmental resources rather than to achieve public purposes (Baden and Stroup, 1983). This logic, they claim, presents an enduring challenge to the state's ability to realize public purposes in natural resources management. The challenge remains to reform the institutions that have the responsibility of environmental management to yield more desirable social outcomes[10].

A.3.2 **Social Psychological Models**

Discussions of variations in public attitudes often claim to uncover the values held by the population on the major issues and concerns of the day (Jacobs et al, 1991). The emphasis here is on people's attitudes with regard to the environment and natural resources. The

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building to environmental reconstruction projects. This is a co-optation phenomenon in which the agency's ability to shift focus was the agency's sensitivity to voices of new clientele groups.

[10] The faith of the rational choice literature is still in State management. However, it challenges individuals within the public sector, not organizations, who make decisions and tend to act according to their own perceived interest.

interpretation of public attitudes emphasizes how enduring, how central, and how widespread environmental issues are for the general public[11].

The clear and central focus of the debate remains, therefore, whether there is an integrated pattern of attitudes concerning the environment and resources use among the population of a particular area. An answer to this question attempts to lead to an understanding of the relationship between human communities and their environments, as well as any possible actions to exploit or protect such environmental resources[12] (Salazar and Lee, 1990). For example, there is a good deal of agreement among observers that among the well educated, higher income, and younger sectors of the population, environmentalist values prevail at least in greater proportion than among the rest of the population[13]. This attitude may generate a set of actions that can support the quality of their environment. (Feeny et al, 1990).

Many conceptual models of the process of understanding and influencing behavior and attitudes have been developed and used in environmental planning and management. For example, Pomerantz and Blanchard (1992) developed the cyclical model, which is inspired from the project cycle. Bennett and Rockwell (1995) developed another model which is based on a hierarchy or chain of events in extension programs that links the resource with the practices that impact the conditions of such resource. Byers (1996) developed a synthetic model that combines the two previous models with the ultimate goal to understand the interface between ecological and social systems.

This review of three categories of literature reveals a common need toward a more integrated framework for environmental planning and management. Several authors attempted to develop such a new theoretical construct, i.e., Costanza (1991), Atkinson (1991), and Pepper (1993). Acknowledging their work, an integrated conceptual framework is developed to prepare and select a strategy for managing valued natural environments within the urban fabric.

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[11] Environmental survey research inquiries within these models are usually framed to identify and explain why certain groups hold the environmental attitudes that they do. In this regard, several questions are asked such as: do environmental values reflect an evolving fresh perspective on human society or are they simply reactions to fashionable issues? See Healey (1998), for example.

[12] A set of articles regarding relationship between human behavior, attitudes and actions toward the environment can be found in the section of "Environment and Behavior" at [http://www.sagepub.com].

[13] Indeed, some critics have argued, as have Atkinson (1991) and Tucker (1982), that the environmentalist movement stems largely from aristocratic values.

APPENDIX (B)

Field Research Findings

Questionnaire

List of Interviewees

Collected Data from the three Case Studies

AN ACADEMIC RESEARCH SURVEY

GENDER	( ) Male ( ) Female
AGE	( ) under 25 ( ) 25-35 ( ) 35-45 ( ) above 45
ACTIVITY	( ) Not working ( ) working
EDUCATION	( ) High School & under ( ) Post HS ( ) Graduate

The research is prepared in conformity with all the articles of the UdeM code related to *"La politique relative à l'utilisation des êtres humains en expérimentations"*, including the confidentiality of the participants.

I. GENERAL ATTITUDES:

1.1. **What do you understand by the term "environment"?**

( ) Everything around us
( ) interaction between people and nature
( ) Threat or pollution.
( ) do not know

1.2. **Do you consider yourself interested / concerned about the environment?**
( ) very ( ) somewhat ( ) concerned ( ) not concerned

1.3. **Do you believe that you have a responsibility towards future generations?**
( ) NO ( ) YES

1.4. **Does protecting the environment have any religious relevance to you?**
( ) NO ( ) YES

II. THE PERCEIVED CONDITIONS OF [the case study]:

2.1. **What is the importance of [the case] in your opinion?**
( ) as a source of income
( ) a recreational place
( ) a landmark in the city
( ) no importance

2.2. **In the previous five years, do you think the environmental conditions of [the case] have gotten?**
( ) better ( ) worse ( ) no change

2.3. What do you see as problems related to [the case]?

( ) loss of natural habitat (e.g., birds, fish, ...etc)
( ) deteriorated water quality
( ) garbage and municipal waste
( ) soil erosion

2.4. In your opinion, what are the causes of these problems?

( ) people throwing things (waste, sewage; ...)
( ) industrial and business activities dumping wastes and
( ) negative development patterns (construction, ...)
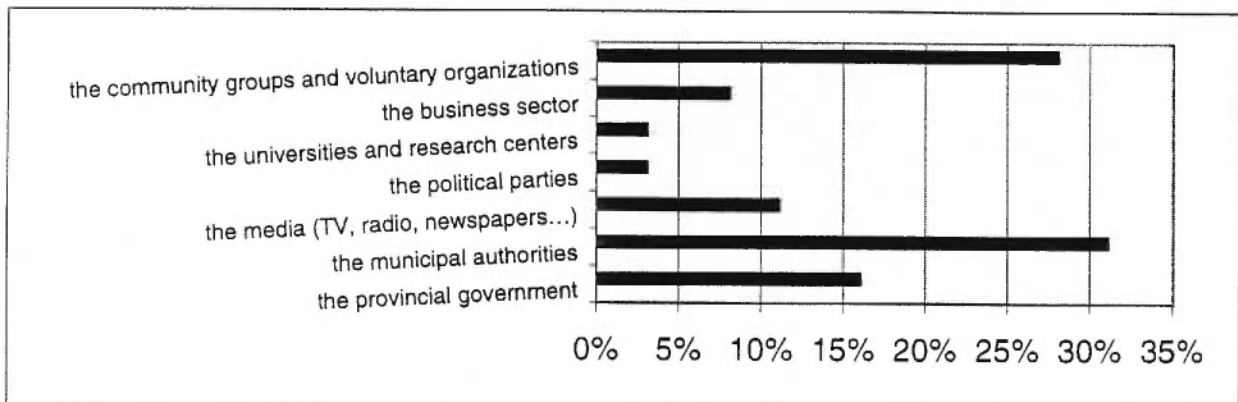( ) do not know

III. WHO DO YOU BLAME?

3.1. Who do you blame for causing the environmental deterioration of [the case]?

( ) the provincial government;
( ) the municipal authorities;
( ) the political parties
( ) the universities and research centers
( ) the Business sector
( ) the people of the community themselves
( ) do not know

3.2. In your opinion, which of the following organizations have a prominent role in managing [the case]?

( ) The provincial government;
( ) the municipal authorities;
( ) the media (TV, radio, newspapers, ...)
( ) the political parties
( ) The universities and research centers;
( ) The Business sector
( ) The community groups and voluntary organizations.

IV. The Accomplishments of Local Government's Authorities:

4.1. In your opinion, are the municipal authorities concerned about the deterioration of [the case]?
( ) Very concerned   ( ) somewhat ( ) Not concerned   ( ) do not know

4.2. In your opinion, has the government done enough to protect and clean up [the case]?
( ) done everything   ( ) the minimum   ( ) nothing   ( ) do not know

4.3. Are you optimistic or pessimistic with regards to any improvement in the role of the authorities?

( ) optimistic　　( ) pessimistic　　( ) neither

V. ACTIONS AND INTERVENTIONS

1. In your opinion, is the public responsible for improving the conditions of [the case]**?**

( ) **YES**, people are responsible for :
　( ) changing one's own behavior
　( ) getting other people to change
　　their behavior
　( ) pressuring authorities to act

( ) **NO**, people are not responsible because:
　( ) people are helpless
　( ) people have no ideas
　( ) other _____

5.2. What would do if you have an environmental problem within your district?

( ) solve it yourself
( ) contact a governmental agency
( ) ask the support of elected political leaders
( ) solve it collectively with friends and other community members
( ) do not know what to do

VI. MEDIA EXPOSURE

6.1. Do you regularly watch television? *(more than 2 hours per day)*
( ) NO　　　( ) YES

2. Do you regularly read the newspapers? *(more than twice a week)*
( ) NO　　　( ) YES

3. Do you consider the media an important source of information on issues related to [the case]**?**

( ) NO　　　( ) YES

If *YES*, what information about [the case] **do you usually get from TV and/or newspapers?**

( ) information about new laws for the protection of [the case]
( ) information about a particular group or agency working on [the case]
( ) news if the government has done something about [the case]
( ) where to go in case of your intention to support the protection of [the case]

... Thank you for your cooperation ...

LIST OF INTERVIEWEES

- Hisham M. Abdallah, Abu Attwa Water Reuse Center (SCU).
- Adel Abou Zahra, NGOs' activist and secretary of Fiends of the Environment.
- Emad Adly, national coordinator, LIFE and GEF small grants program.
- Murray Boyce, Department of Parks and Recreation, City of Toronto.
- Daniel Chartier, Ville de Montréal, Architecte, Aménagement des Parcs
- Jean Décarie, former coordinator of the "Archipel" project and the Mount Royal Park.
- Habiba Eid, national SIP coordinator.
- Mahmoud El-Amir, director of the Ismailia Fishermen Association.
- Maher Fares, Wastewater Senior Engineer, Environment Affairs Department, Ismailia Governorate
- Mona Farouk, Environmental Management specialist, Environment Affairs Department, Ismailia Governorate
- Adele Freeman, Don/Highland Watershed Specialist, MTRCA
- Johanne Groulx, Centre de la Montagne
- Sylvie Guilbault, coordinator, "Les Amis de la Montagne"
- Micheal Hough, consultant, Hough Stansbury Woodland Limited
- Ismail M. Ismail, National Democratic Party, Ismailia Governorate.
- Lucie Lafortune, Ville de Montréal, Service des Parcs
- Annita McBried, Environmental Studies, York University
- Amin Sharkawi, Technical Officer for Environment and Development, UNDP, Cairo.
- David Stonehouse, Planner and coordinator of the TFBBD, City of Toronto
- Marie-Odile Trépanier, professor, Institut d'Urbanisme, Université de Montréal
- Tarek Wafik, coordinator of Lake Timsah working group.
- Mark Wilson, Chair, Task Force to Bring Back the Don.
- Nathalie Zinger, director of WWF Canada, and former coordinator of "Les Amis de la Montagne".

Case 1

Mount Royal Mountain

Montreal

MONTREAL

I. General Attitudes:

1. What do you understand by the "enviro n ment"?

everything around us	72%
interaction between people and nature	22%
threat or pollution	6%
do not know	
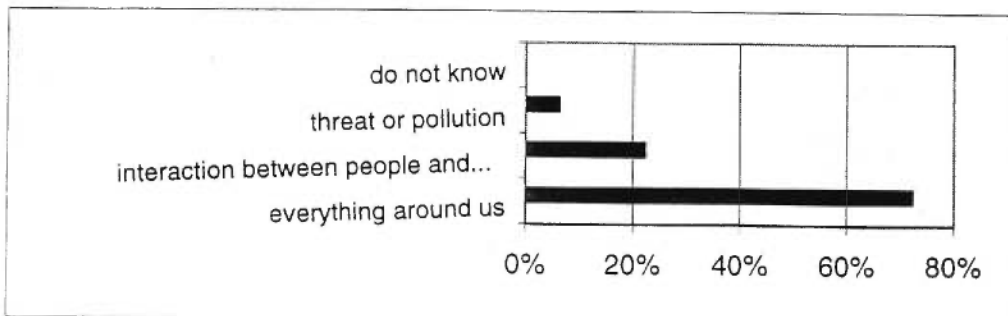
2. Do you consider yourself interested/concerned about the environment?

very	32%
partly	38%
concerned	22%
not concerned	8%
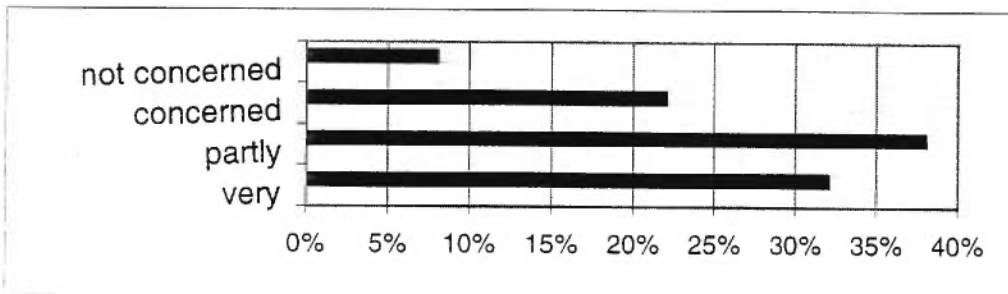
3. Do you believe that you have a responsibility towards future generations?

|	
No	8%
Yes	92%
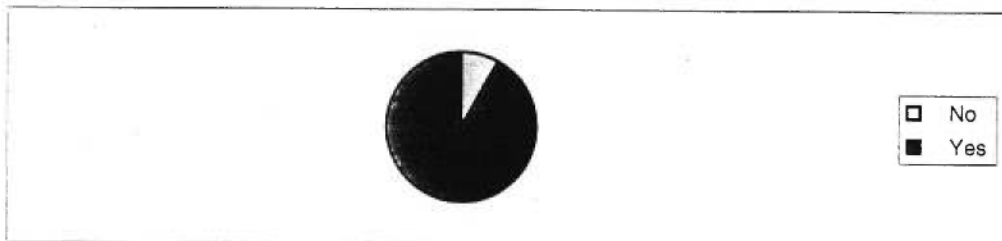
4. Does protecting the environment have any religious relevance?

No   88%
Yes   12%
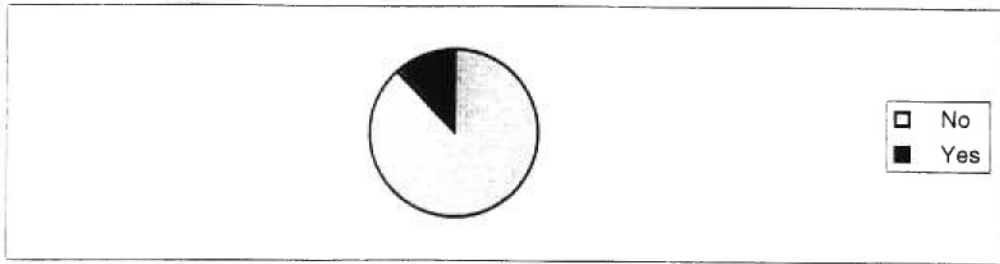
II. The Conditions of Mount Royal

1. What is the importance of Mount Royal in your opinion?

source of income	
recreation	38%
a landmark in the city	56%
no importance	6%
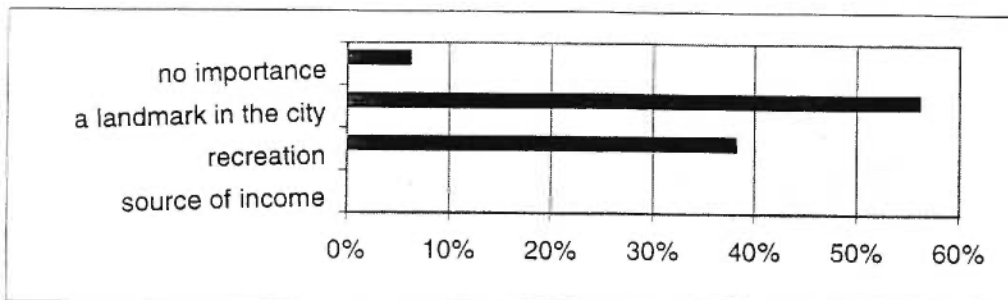
2. In the previous five years, do you think the environmental the conditions of Mount Royal have gotten?

better	12%
worse	38%
no change	50%
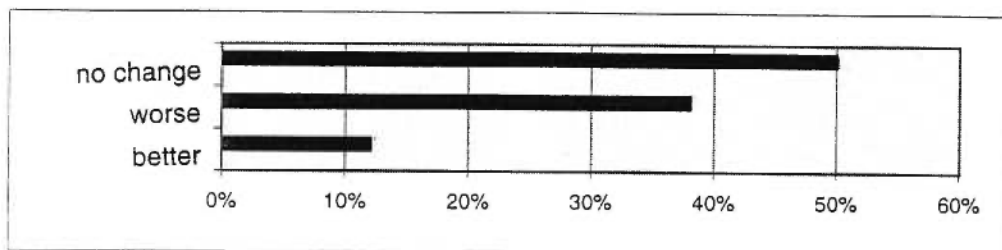
3. What are the problems related to Mount Royal?

loss of natural habitat (e.g., birds, fish, etc...)	30%
deteriorated water quality	10%
garbage and municipal waste	38%
soil erosion/contamination	22%
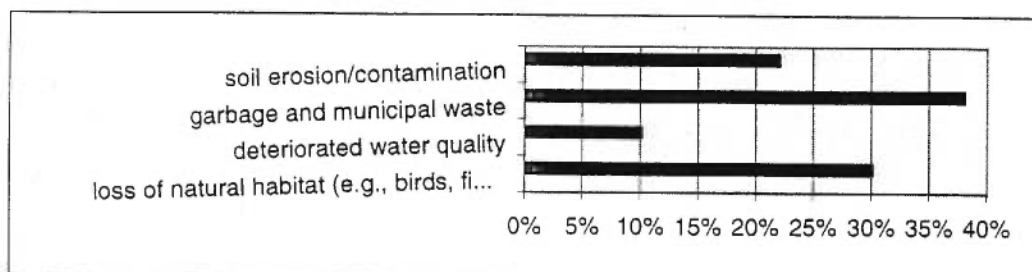
4. What are the causes of these problems?

people throwing things (waste, sewage, ...)	59%
industrial and business activities dumping wastes and	9%
negative development patterns (construction, ...)	18%
do not know	14%
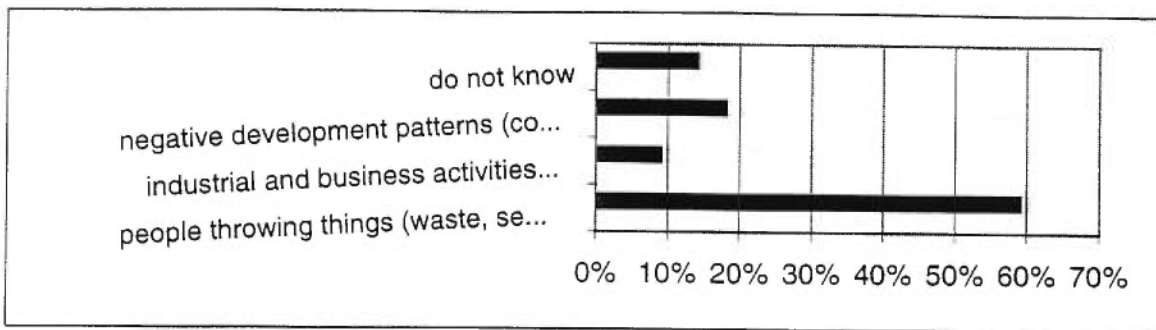
III. Who is to Blame:

1. Who is to blame for causing the environmental deterioration of Mount Royal?

the provincial government	11%
the municipal authorities	15%
the political parties	11%
the universities and research centers	4%
the Business sector	19%
the people of the community themselves	29%
do not know	11%
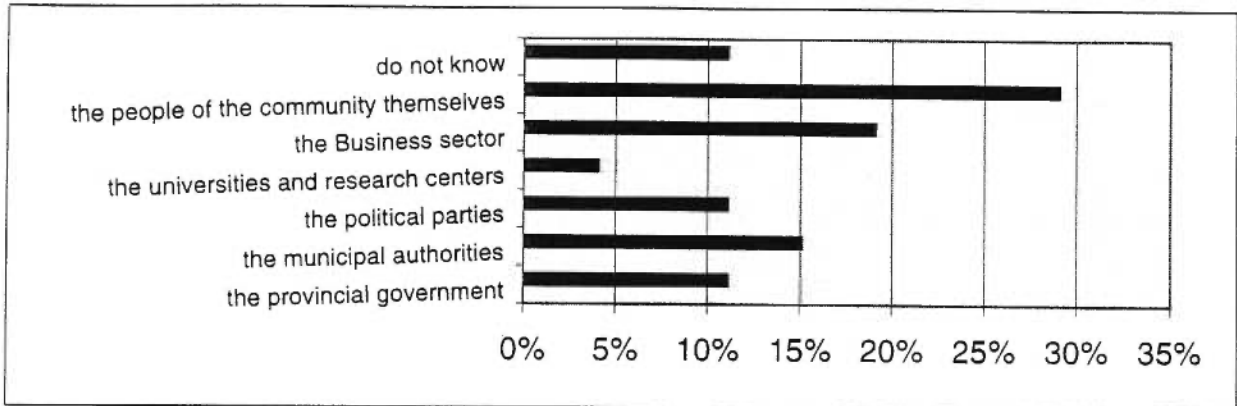
2. Which of the following organizations have a prominent role in   managing Mount Royal?

the provincial government	16%
the municipal authorities	31%
the media (TV, radio, newspapers...)	11%
the political parties	3%
the universities and research centers	3%
the business sector	8%
the community groups and voluntary organizations	28%

IV. The Accomplishment local government's Authorities

1. Are the municipal authorities concerned about the deterioration of Mount Royal?

very concerned	11%
little	28%
not concerned	17%
do not know	44%
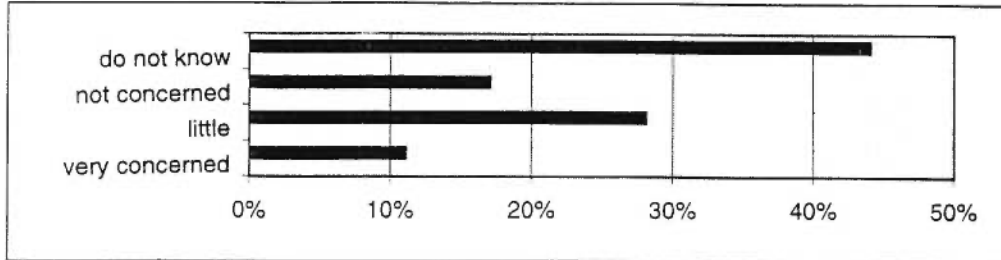
2. Has the government done enough to protected and clean up Mount Royal ?

done everything	
the minimum	33%
nothing	16%
do not know	51%
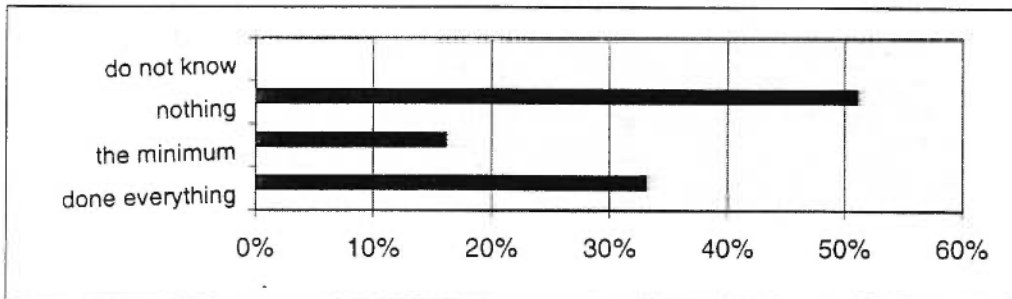
3. Are you optimistic or pessimistic with regards to any improvement in the role of the authorities ?

optimistic	27%
pessimistic	38%
neither	35%
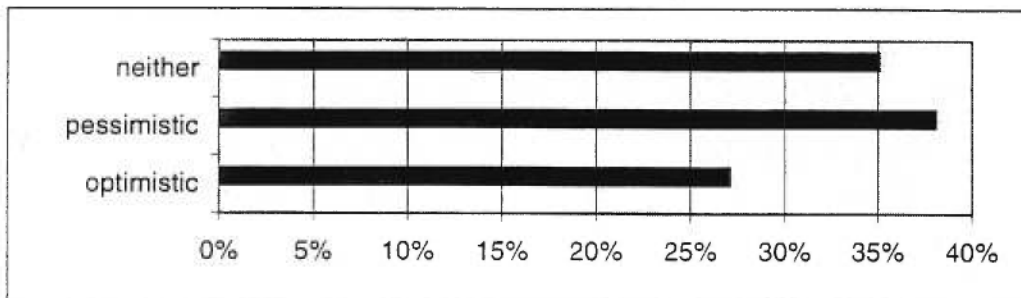
V. Actions and Interventions

1. Is the public responsible for improving the conditions of Mount Royal?

YES, people are responsible for	
changing one's own behavior	34%
getting other people to change their behavior	20%
pressuring authorities to act	39%

NO, people are not responsible because :
people are helpless
people have no ideas
other

YES, people are responsible	93%
NO, people are not responsible	8%
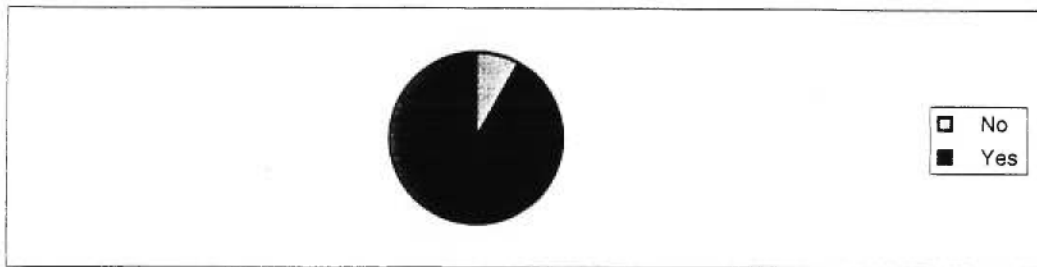
2. What should do if you have an environmental problem within your district?

solve it by yourself	4%
contact a governmental agency	25%
ask the support of elected political	33%
solve it collectively with friends and other community members	33%
do not know what to do	5%
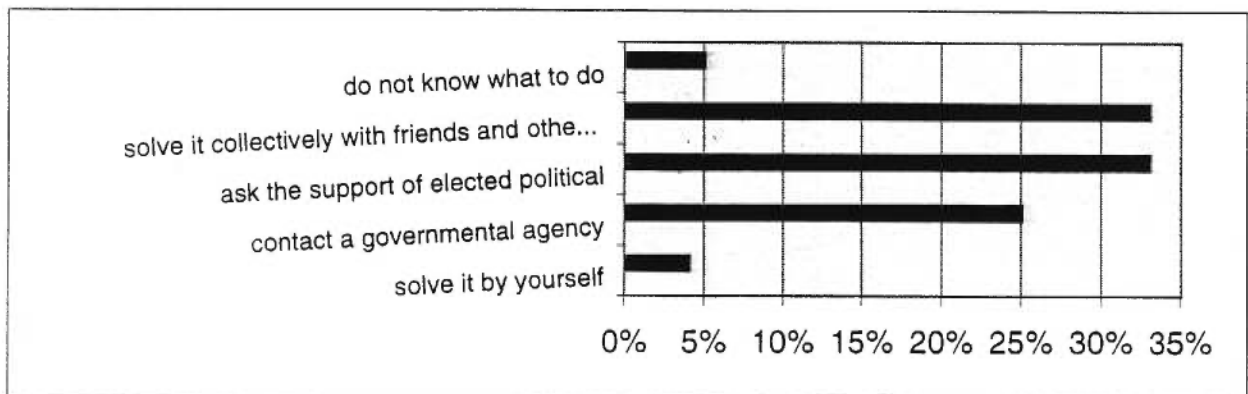
VI. Media exposure

1. Do you regularly watch television? *(more than 2 hours per day)*

No	33%
Yes	67%
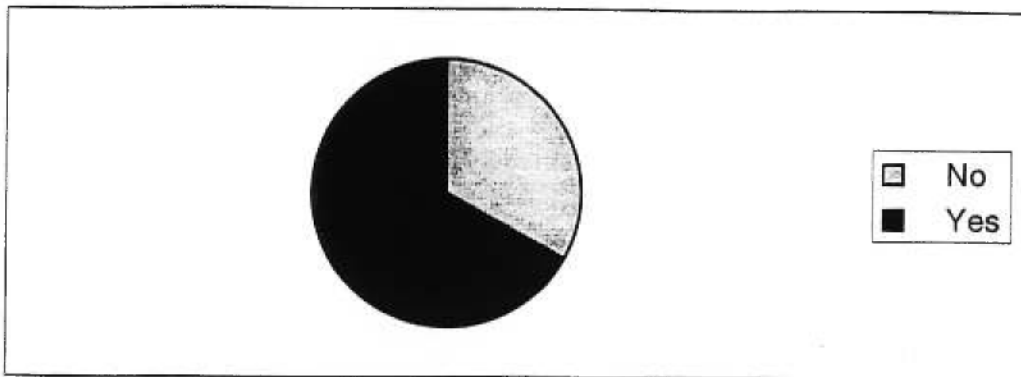
2. Do you regularly read the newspapers? *(more that twice a week)*

No	35%
Yes	65%
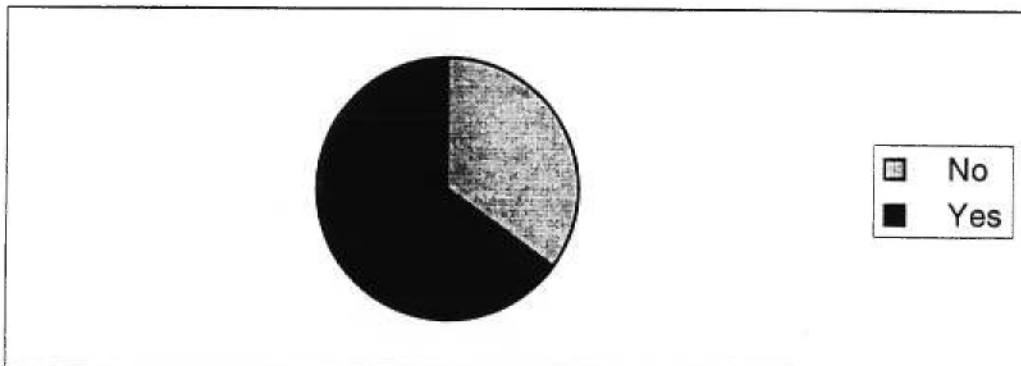
3. Do you consider the media an important source of information on issues related to Mount Royal?

No	13%
Yes	69%
Do not know	18%
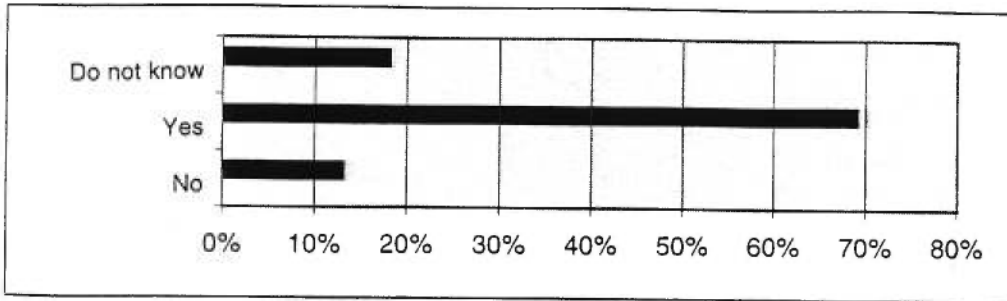
If yes, what information about Mount Royal do you usually get from TV and/or newspapers?

information about new laws for the protection of the moutain	12%
information about a particular group or agency	43%
news if the governement has done something about Mount Royal	37%
where to go in case of a desire to support the protection of Mount Royal	8%
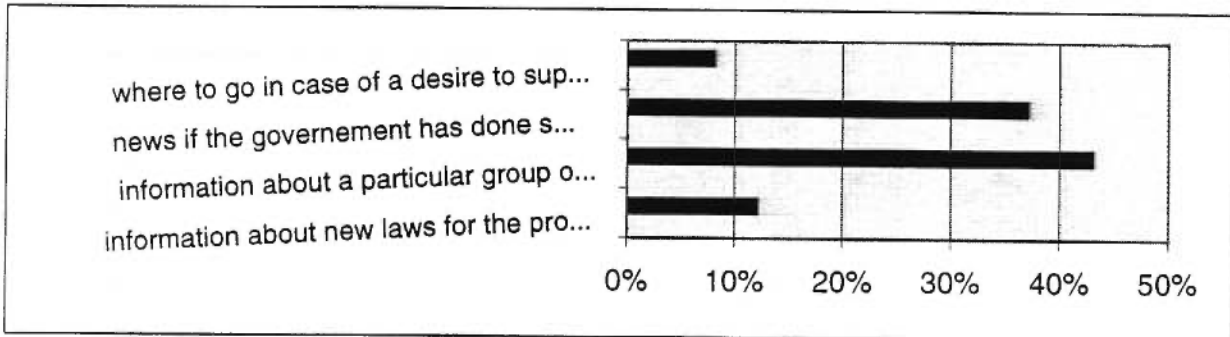
Case 2

The Don River

Toronto

TORONTO

I. General Attitudes:

1. What do you understand by the "environ ment"?

everything around us	30%
interaction between people and nature	48%
threat or pollution	22%
do not know	
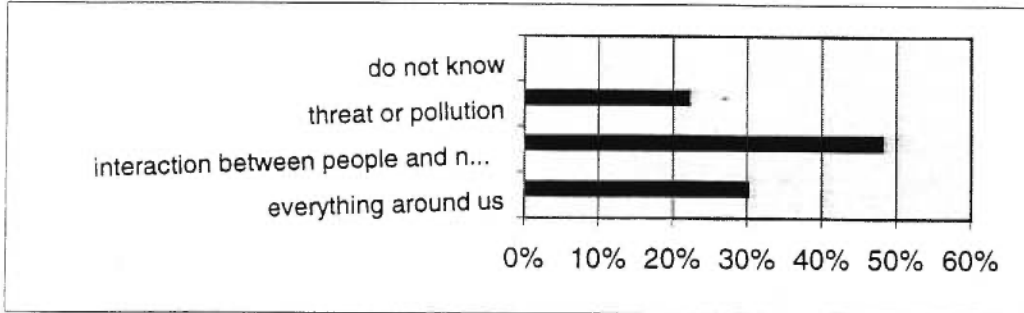
2. Do you consider yourself interested/concerned about the environment?

very	42%
partly	36%
concerned	18%
not concerned	4%
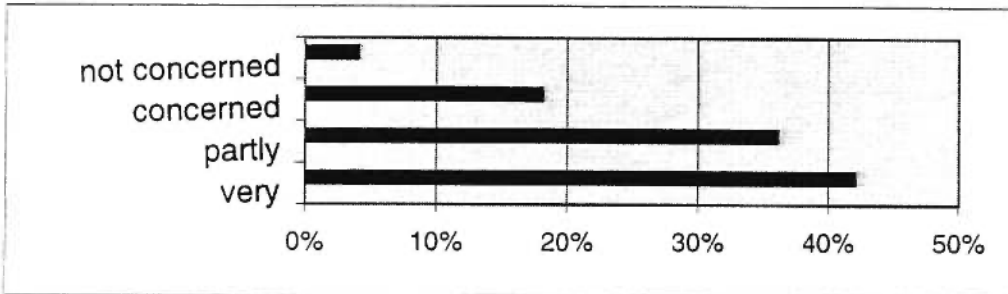
3. Do you believe that you have a responsibility towards future generations?
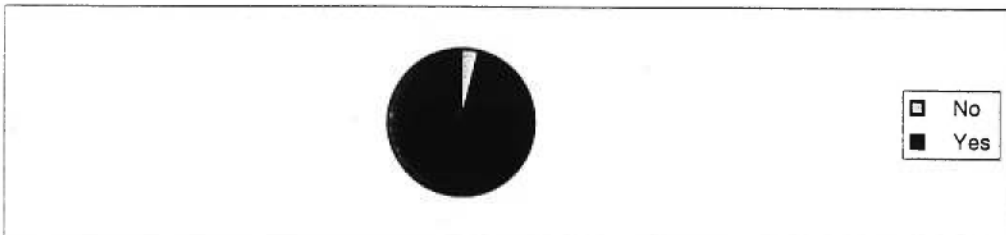
No	4%
Yes	96%

4. Does protecting the environment have any religious relevance?

No   72%
Yes   28%
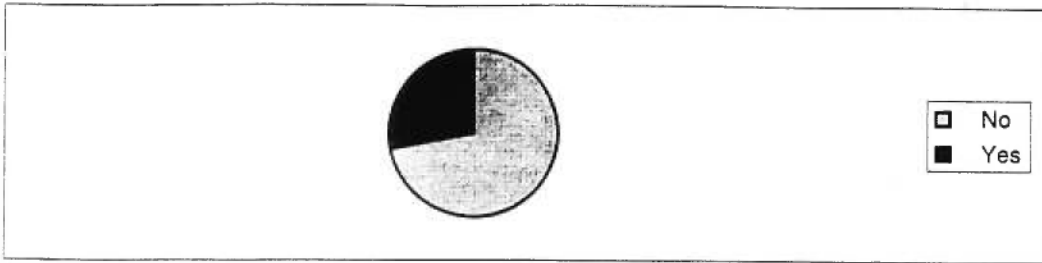
II. The Conditions of the Don

1. What is the importance of Mount Royal in your opinion?

source of income	4%
recreation	52%
a landmark in the city	38%
no importance	6%
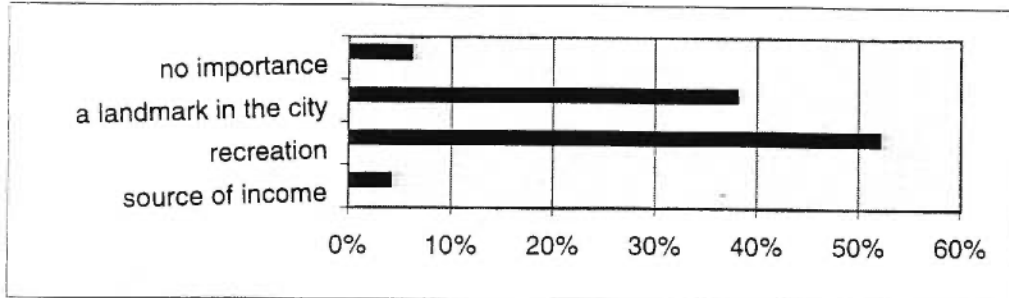
2. In the previous five years, do you think the environmental conditions of the Don have gotten?

better	46%
worse	24%
no change	30%
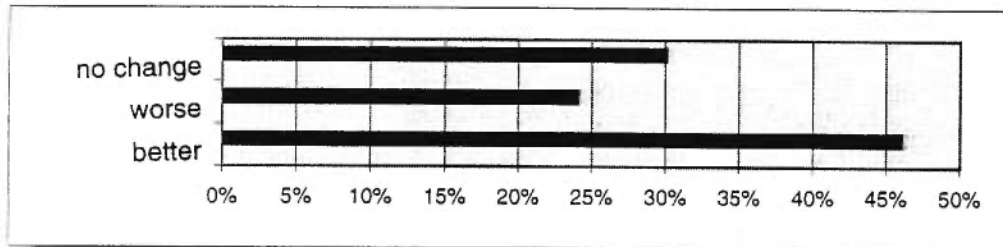
3. What are the problems related to the Don?

loss of natural habitat (e.g., birds, fish, etc...)	26%
deteriorated water quality	48%
garbage and municipal waste	8%
soil erosion/contamination	18%
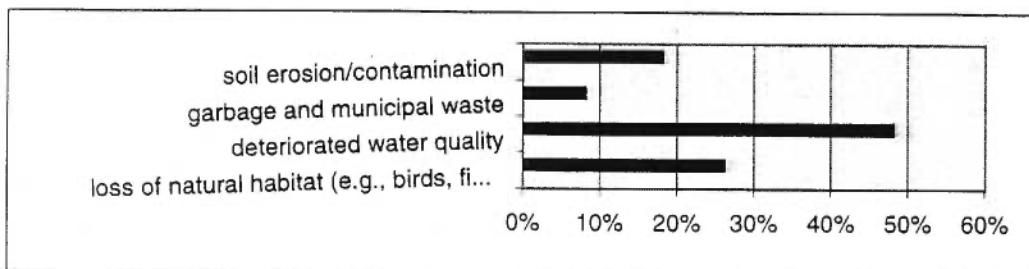
4. What are the causes of these problems?

people throwing things (waste, sewage, ...)	4%
industrial and business activities dumping wastes and	54%
negative development patterns (construction, ...)	30%
do not know	12%
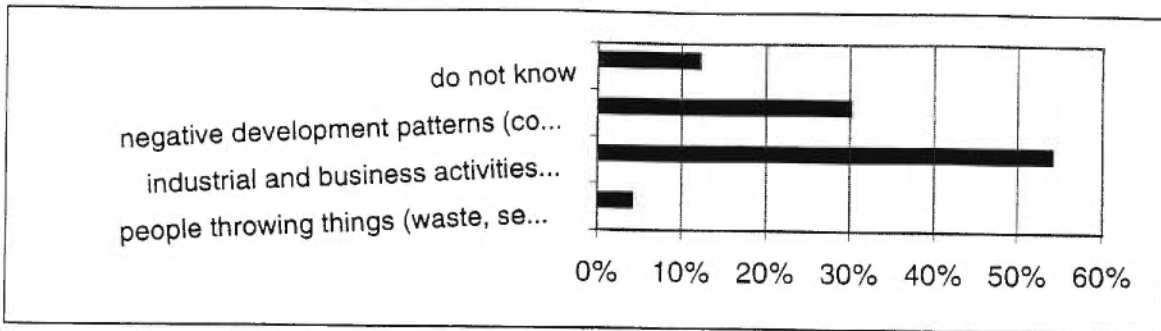
III. Who is to Blame:

1. Who is to blame for causing the environmental deterioration of the Don?

the provincial government	10%
the municipal authorities	24%
the political parties	3%
the universities and research centers	4%
the Business sector	19%
the people of the community themselves	29%
do not know	11%
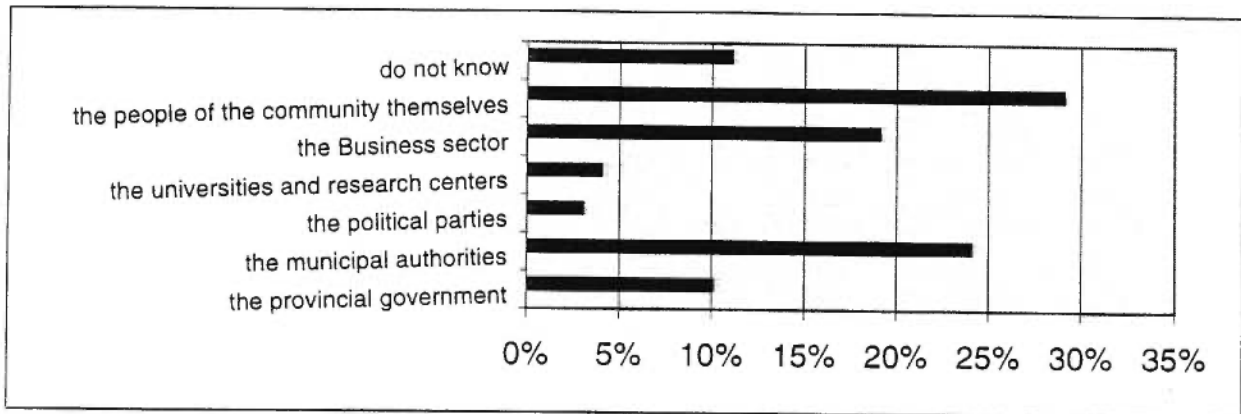
2. Which of the following organizations have a prominent role in managing the Don?

the federal government	2%
the provincial government	2%
the municipal authorities	26%
the media (TV, radio, newspapers...)	5%
the political parties	0%
the universities and research centers	7%
the business sector	21%
the community groups and voluntary organizations	31%
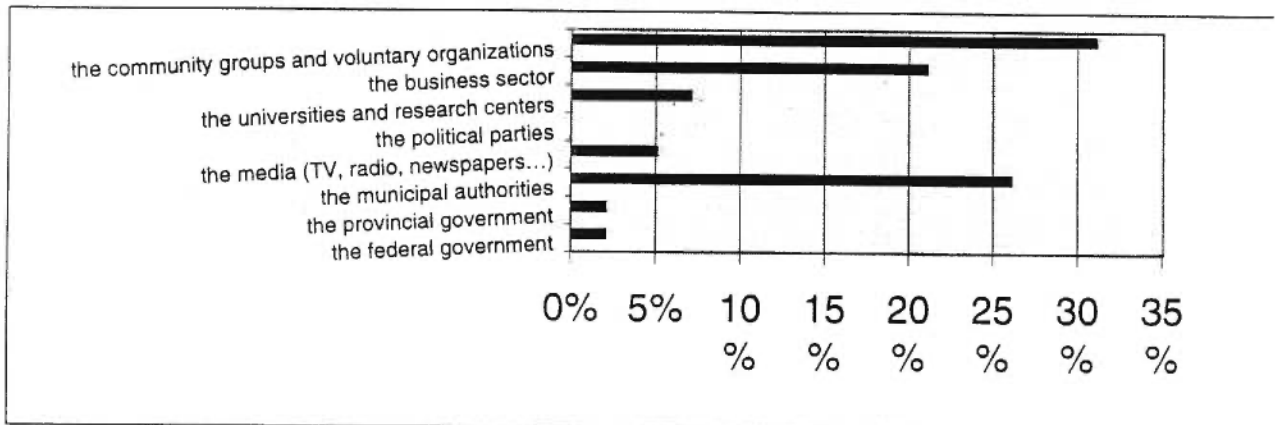
IV. The Accomplishment local governmer t's Authorities

1. Are the municipal authorities concerned about the deterioration of the Don?

very concerned	22%
little	43%
not concerned	19%
do not know	16%
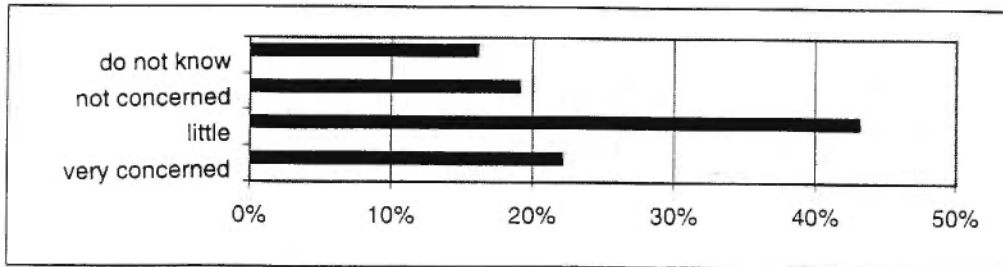
2. Has the government done enough to protected and clean up the Don?

done everything	12%
the minimum	56%
nothing	14%
do not know	18%
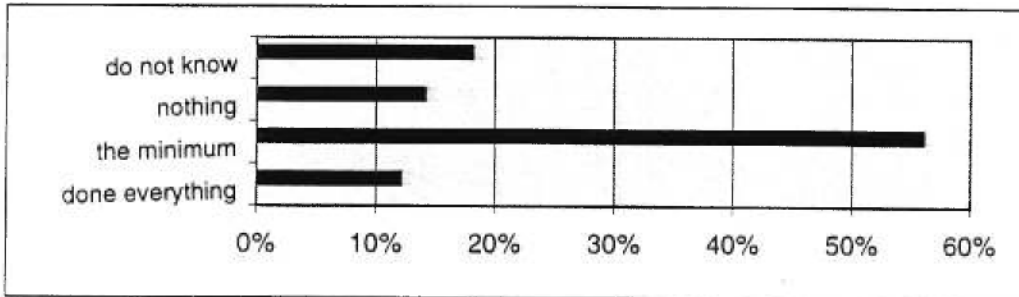
3. Are you optimistic or pessimistic with regards to any improvement in the role of the authorities?

optimistic	79%
pessimistic	10%
neither	12%
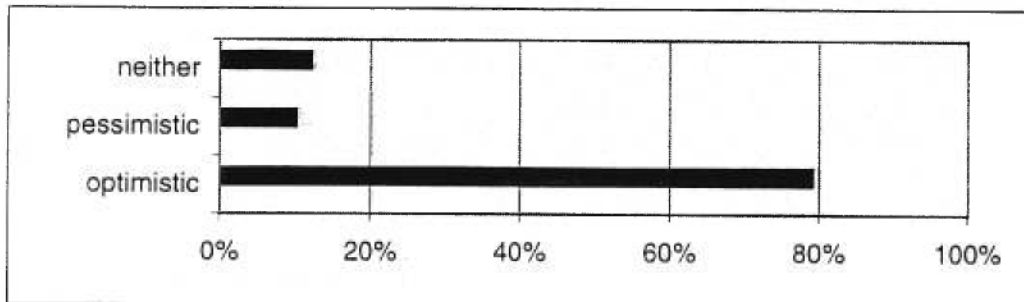
V. Actions and Interventions

1. Is the public responsible for improving the conditions of the Don?

YES, people are responsible for	
changing one's own behavior	25%
getting other people to change their behavior	16%
pressuring authorities to act	36%
NO, people are not responsible because :	
people are helpless	4%
people have no ideas	8%
other	7%
YES, people are responsible	77%
NO, people are not responsible	19%
DO not know	4%
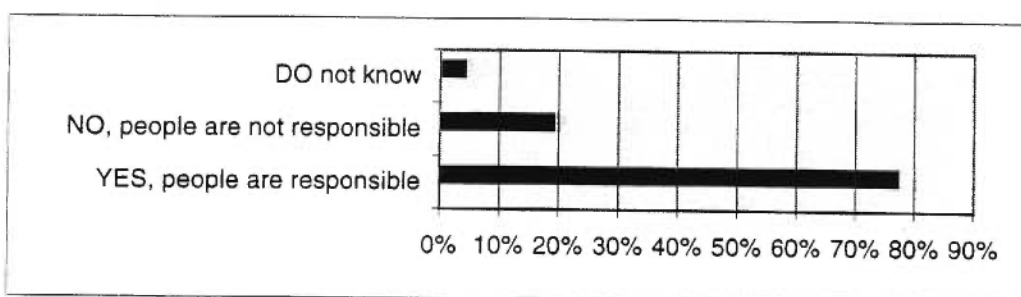
2. What should do if you have an environmental problem within your district?

solve it by yourself	12%
contact a governmental agency	21%
ask the support of elected political	18%
solve it collectively with friends and other community members	46%
do not know what to do	3%
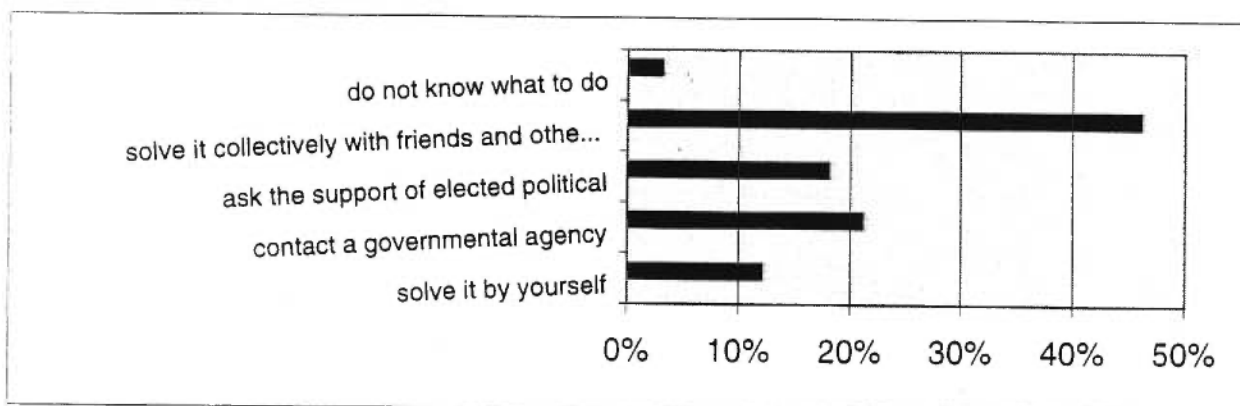
VI. Media exposure

1. Do you regularly watch television? *(more than 2 hours per day)*

No   32%
Yes   68%
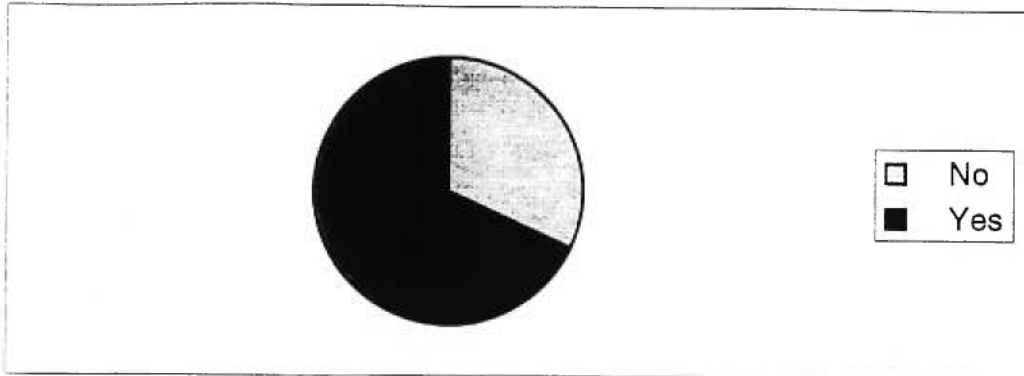
2. Do you regularly read the newspapers? *(more that twice a week)*

No   27%
Yes   73%
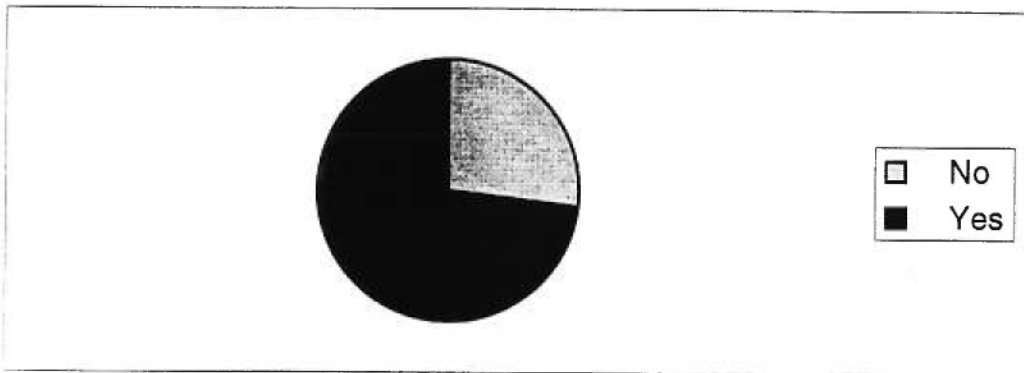
3. Do you consider the media an important source of information on issues related to the Don?

No	20%
Yes	62%
Do not know	18%
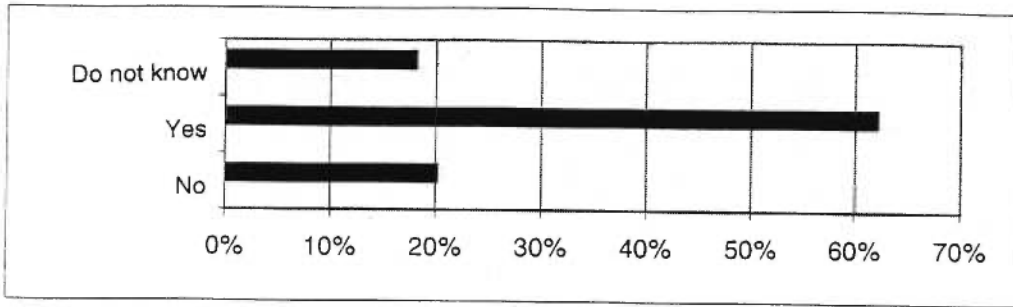
If yes, what information about the Don do you usually get from TV and/or newspapers?

information about new laws for the protection of the moutain	10%
information about a particular group or agency	38%
news if the governement has done something about the Don	40%
where to go in case of a desire to support the protection of the Don	12%
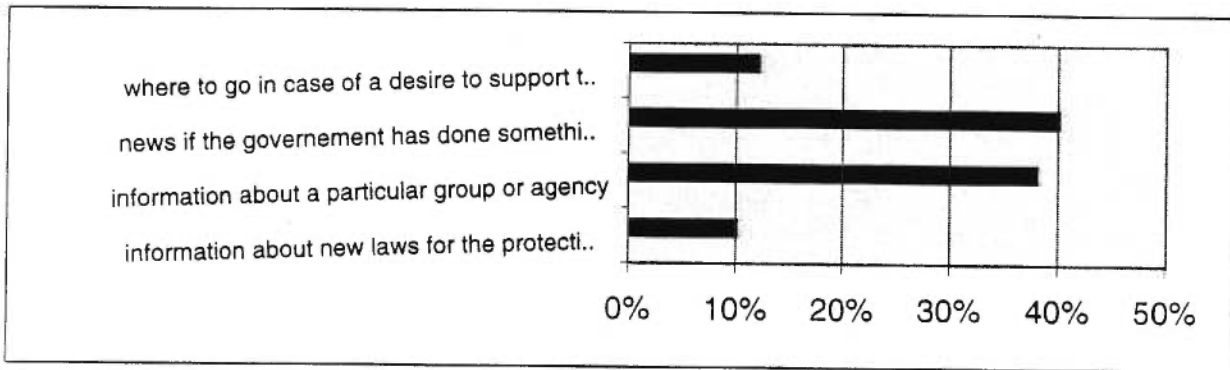
Case 3

Lake Timsah

Ismailia

ISMAILIA

I. General Attitudes:

1. What do you understand by the "environ   ment"?

everything around us	57%
interaction between people and nature	0%
threat or pollution	20%
do not know	23%
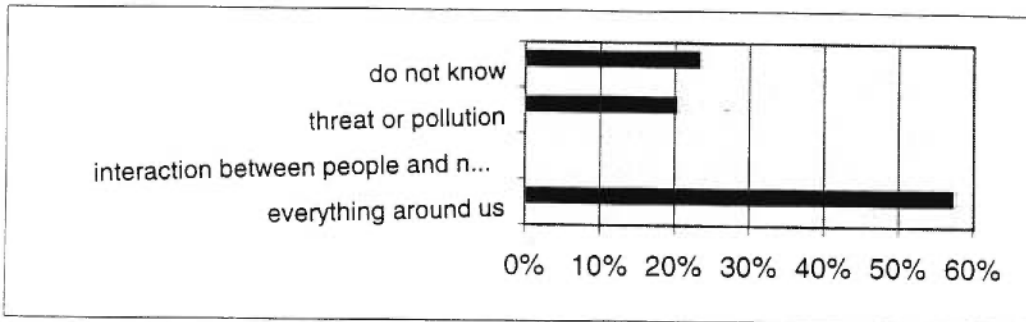
2. Do you consider yourself interested/concerned about the environment?

very	59%
partly	23%
concerned	10%
not concerned	8%
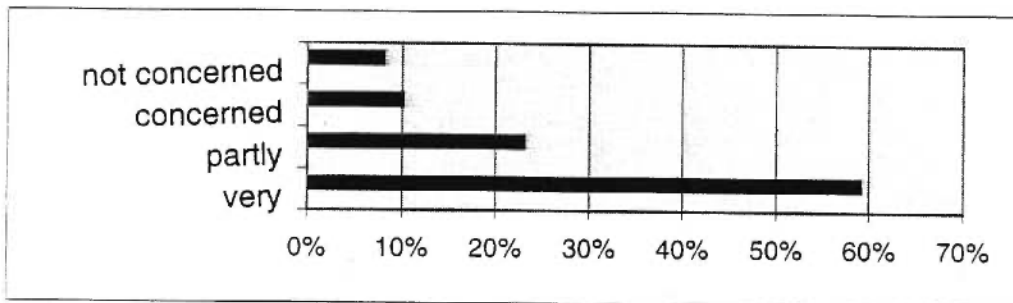
3. Do you believe that you have a responsibility towards future generations?

No	4%
Yes	96%
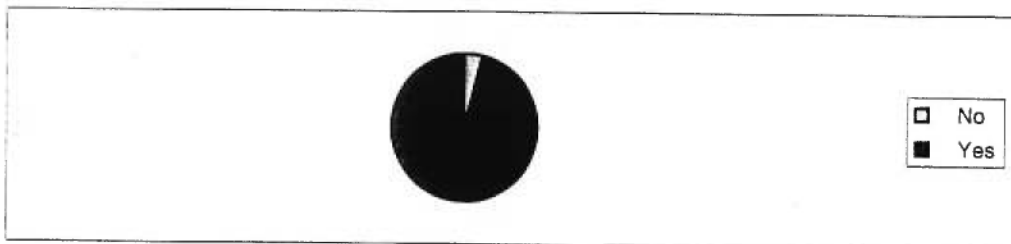
4. Does protecting the environment have any religious relevance?

No   72%
Yes   28%
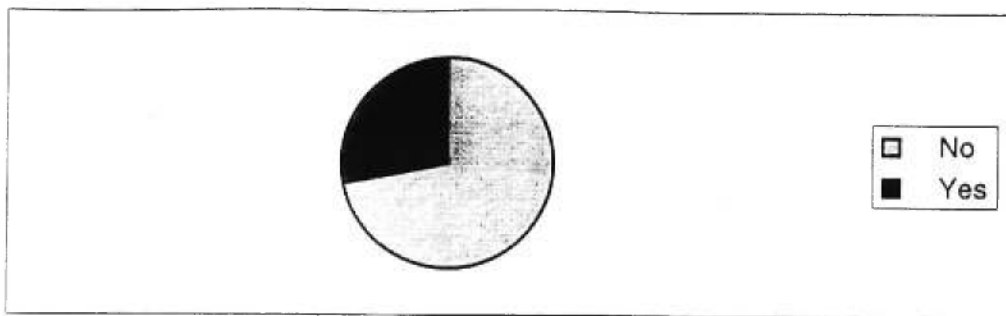
II. The Conditions of lake Timsah

1. What is the importance of the lake in your opinion?

source of income	74%
recreation	6%
a landmark in the city	5%
no importance	15%
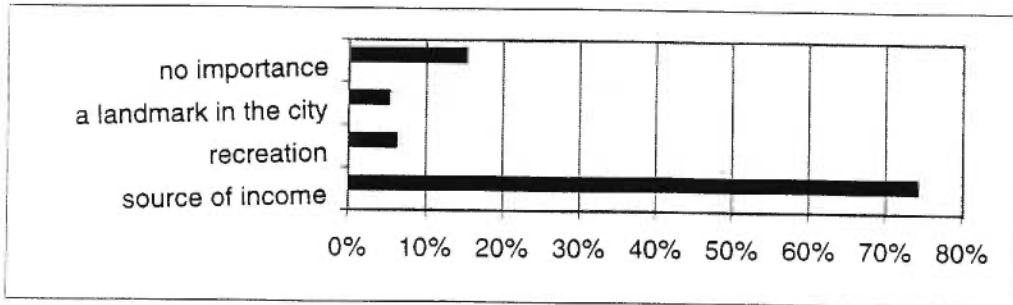
2. In the previous five years, do you think the environmental conditions of the lake have gotten?

better	3%
worse	59%
no change	38%
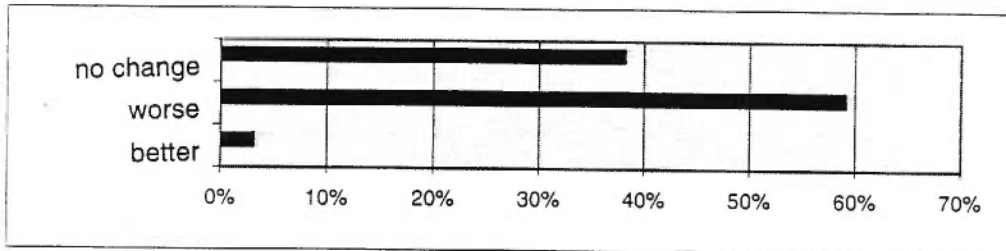
3. What are the problems related to the lake?

loss of natural habitat (e.g., birds, fish, etc...)	28%
deteriorated water quality	38%
garbage and municipal waste	24%
soil erosion/contamination	10%
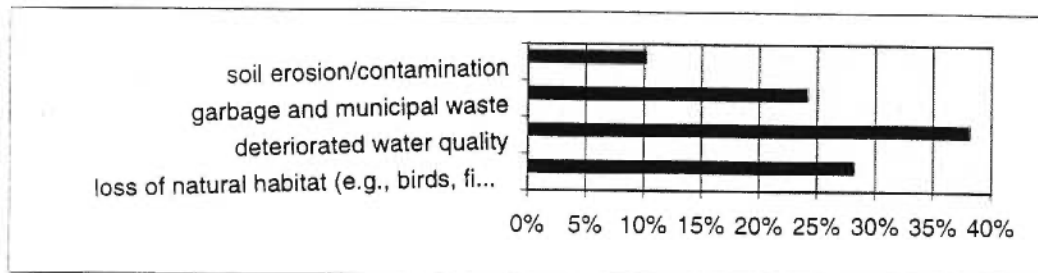
4. What are the causes of these problems?

people throwing things (waste, sewage, ...)	54%
industrial and business activities dumping wastes and	12%
negative development patterns (construction, tourism, etc.)	30%
do not know	4%
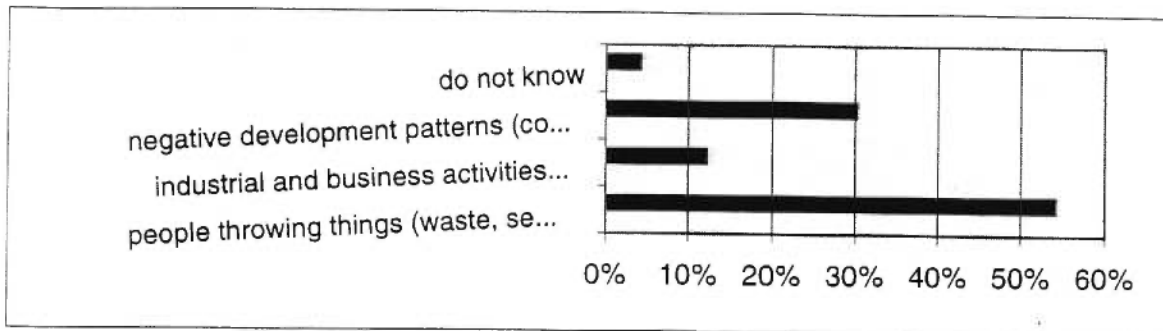
III. Who is to Blame:

1. Who is to blame for causing the environmental deterioration of lake Timsah?

central agencies (EEAA, SCA, etc.)	26%
the governorate	24%
the municipal authorities (wastewater dept., fishery dept., ...)	16%
the political parties/local council	2%
the universities and research centers	0%
the Business sector	4%
the people of the community themselves	10%
do not know	18%
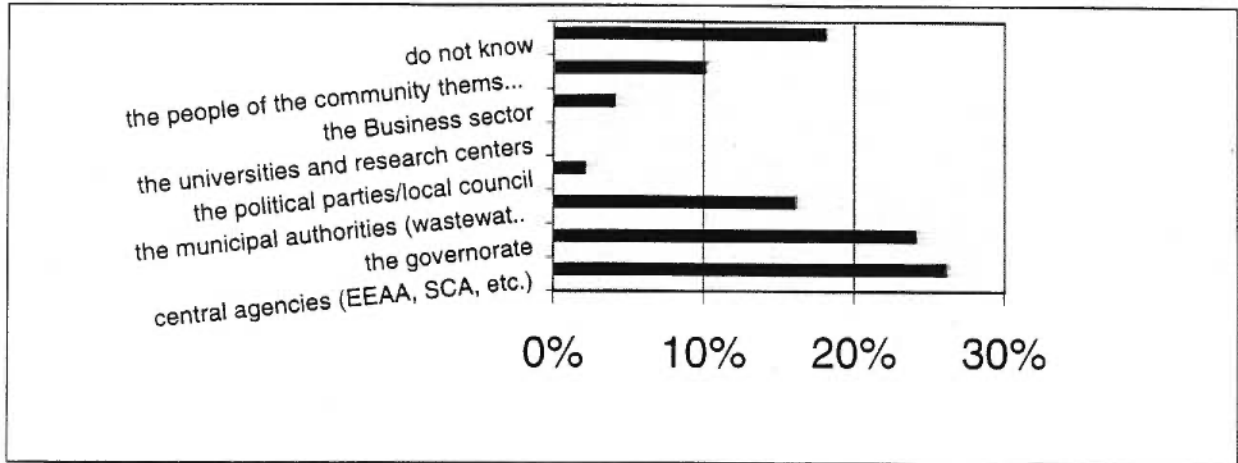
2. Which of the following organizations have a prominent role in managing the lake?

|	
the central agencies	28%
the Ismailia governorate	26%
the municipal authorities	20%
the media (TV, radio, newspapers...)	4%
the political parties	0%
the universities and research centers	4%
the business sector	10%
the community groups and voluntary organizations	18%
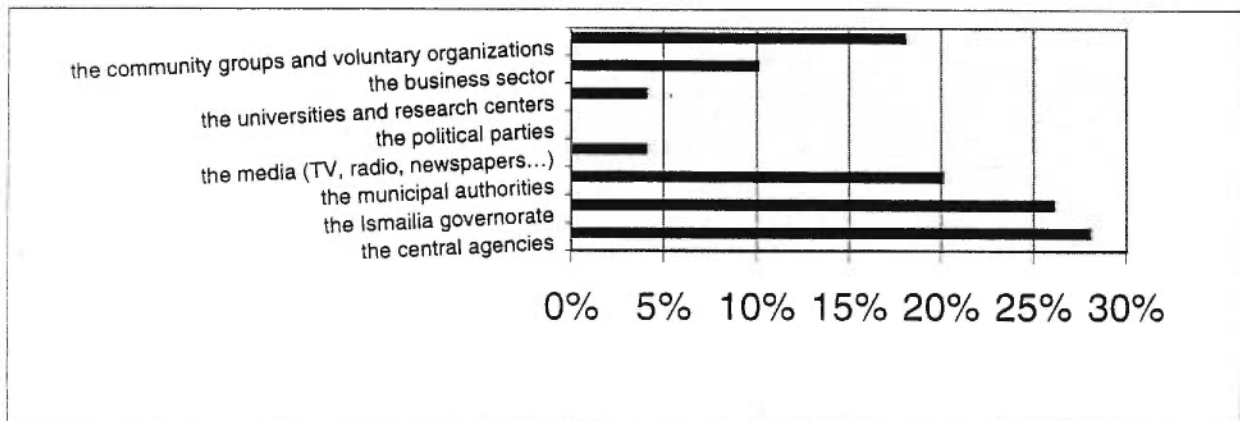
IV. The Accomplishment local government's Authorities

1. Are the local authorities concerned about the deterioration of Lake Timsah?

very concerned	4%
little	12%
not concerned	75%
do not know	9%
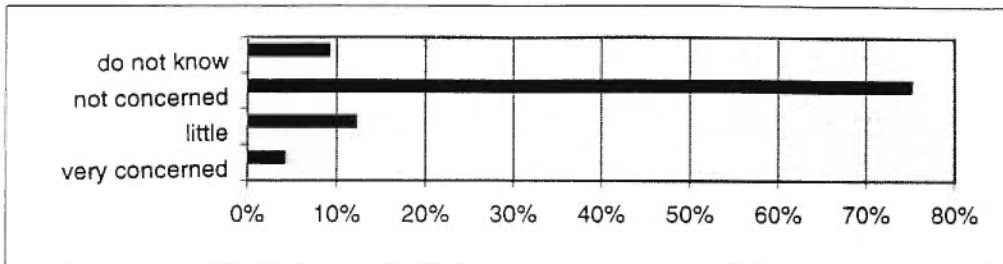
2. Has the government done enough to protected and clean up the lake?

done everything	0%
the minimum	40%
nothing	60%
do not know	0%
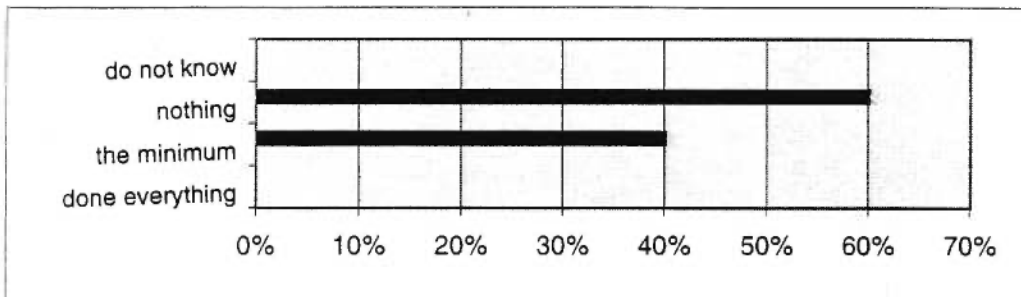
3. Are you optimistic or pessimistic with regards to any improvement in the role of the authorities

optimistic	48%
pessimistic	52%
neither	0%
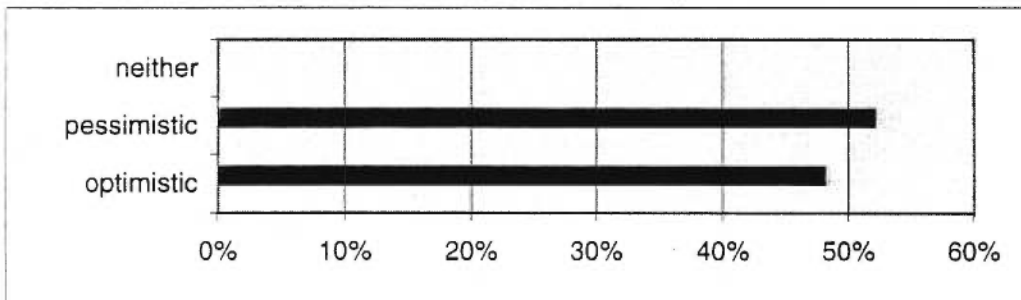
V. Actions and Interventions

1. Is the public responsible for improving the environmental condition of Lake Timsah?

|	
YES, people are responsible for	
changing one's own behavior	12%
getting other people to change their behavior	0%
pressuring authorities to act	16%
NO, people are not responsible because :	
people are helpless	66%
people have no ideas	4%
other	2%
YES, people are responsible	28%
NO, people are not responsible	72%
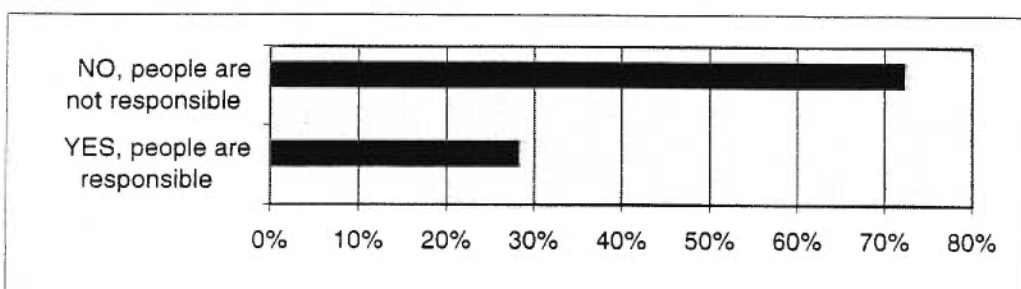
2. What should do if you have an environmental problem within your district?

|	
solve it individually by yourself	12%
contact a governmental agency	21%
ask the support of elected political	18%
solve it collectively with friends and other community members	46%
contacting the media	8%
do not know what to do	3%
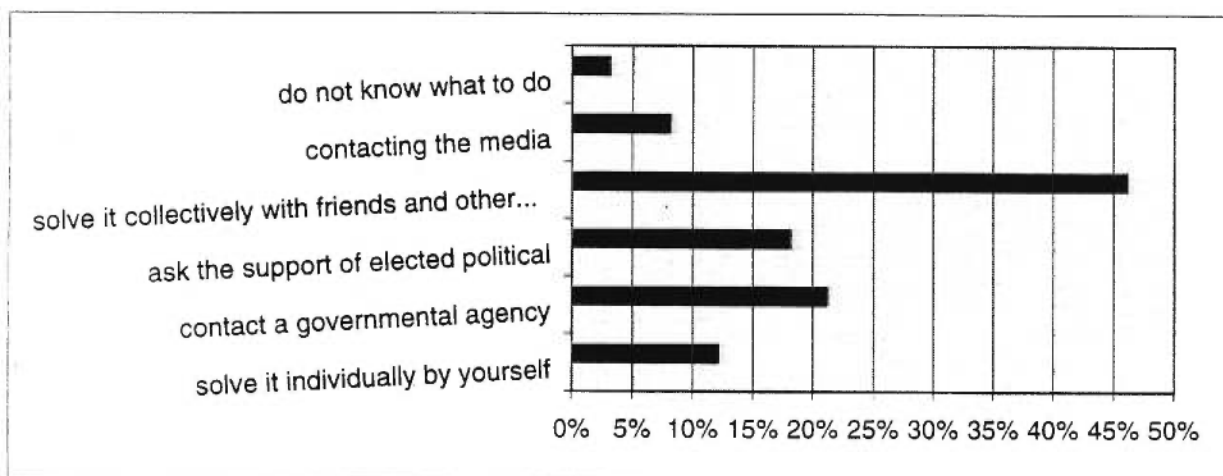
VI. Media exposure

1. Do you regularly watch television? *(more than 2 hours per day)*
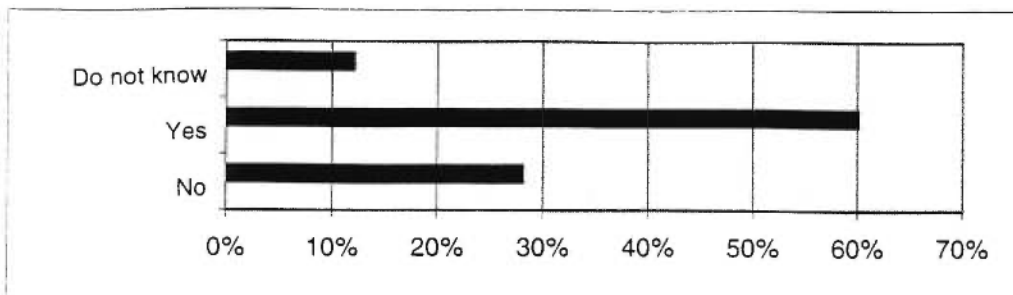
No   7%
Yes   93%
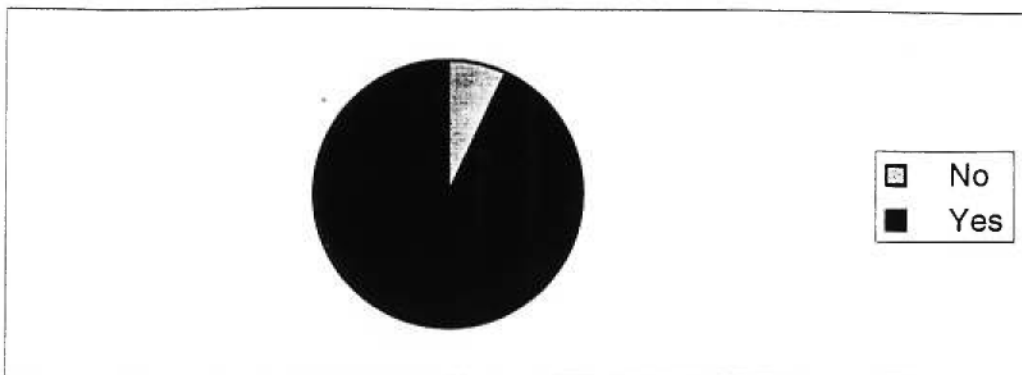
2. Do you regularly read the newspapers? *(more that twice a week)*

No   55%
Yes   45%
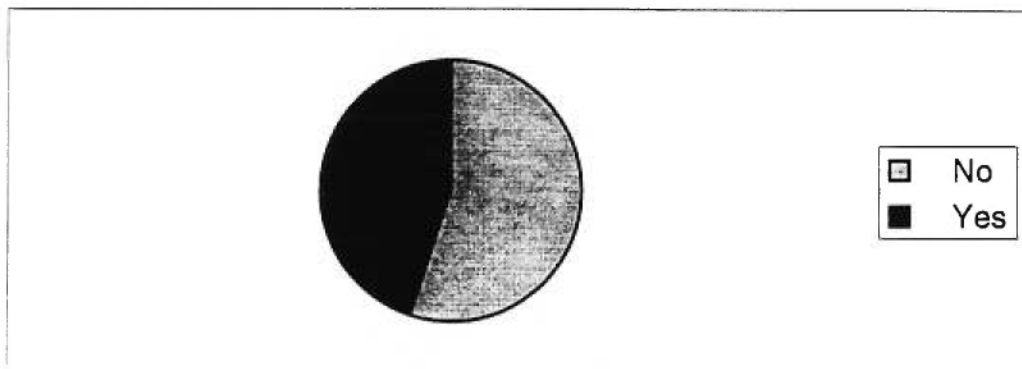
3. Do you consider the media an important source of information on issues related to the lake?

No	28%
Yes	60%
Do not know	12%

If yes, what information about Lake Timsah do you usually get from TV and/or newspapers?

information about new laws for the protection of the lake	16%
information about a specific group and/or agency	14%
news if the governement has done something about the lake	22%
where to go in case of a desire to support the protection of the lake	8%