Municipal Organizations and Environmental Assessment in Ontario: Challenges and Opportunities

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A NEED FOR PROVINCIAL ENVIRONMENTAL ASSESSMENT OF MUNICIPAL PROJECTS

In Ontario, municipalities are responsible for roads, public transportation, education, electrical service, health and welfare services, police, sewage works, and water works within their boundaries (The Municipal Act R.S.O. 1980 c.302). Municipalities provide services to meet these responsibilities in accordance with their size and nature. For example, cities provide more and different services than do towns. The provincial government, through legislation, regulates the manner in which municipalities provide these services.

Historically, legislation regulating municipal planning and development was directed toward two goals. One goal was to establish a consistent and equitable planning process - for instance, the Planning Act (R.S.O. 1983 c.1). A second goal was to protect the human and natural environments - for instance, the Ontario Heritage Act (R.S.O. 1980 c.337) and the Environmental Protection Act (R.S.O. 1980 c.141). In the early 1970s it became apparent that the legislation designed to meet these goals was inadequate for Insuring that all environmental factors were considered in a comprehensive and coordinated fashion (Ontario Ministry of the Environment 1973: 1). It was with this fact in mind that environmental assessment legislation was drafted.

The resultant legislation, The Environmental Assessment Act (R.S.O. 1980 c.140) (EA Act), contains provisions which require change in the manner in which municipalities plan and develop services. The response of municipalities to these requirements provides much material for discussion.

THE REQUIREMENTS OF THE ENVIRONMENTAL ASSESSMENT ACT

All municipal undertakings are subject to the requirements of the EA Act unless exempted (Government of Ontario 1987). The list of exemptions is far reaching, with the result that environmental assessments are required only for major municipal undertakings. The most common types of undertakings for which municipalities are required to conduct environmental assessments are waste management projects, sewer and water work projects and road projects.

Two types of environmental assessment processes are provided for under the EA Act. Both processes require municipalities to (1) demonstrate need, (2) examine alternative courses of action, (3) identify Impacts and potential mitigative measures, and (4) provide opportunity for public Involvement. The differences between the processes has to do with their provisions for quasi-judicial public hearings before an appointed board.

The individual environmental assessment process:

Individual environmental assessments deal with a single major undertaking, such as siting an expressway or a sanitary landfill. The Individual environmental assessment process has provisions for quasi-judicial public hearings before the Ontario Environmental Assessment Board.

The class environmental assessment process:

Class environmental assessments involve a single environmental assessment submission outlining the planning process to be followed on a class of future undertakings for which the impacts are well known and easily mitigated. The routine widening of an existing road would fall within this category. To date, two class environmental assessment processes have been approved. One for municipal sewage and water projects and one for municipal road projects (Municipal Engineers Association of Ontario 1987a, 1987b). Class environmental assessment processes have no provision for public hearings. However, if activities with potential for significant adverse affects on the environment are identified, the class environmental assessment can be "bumped up" to an individual environmental assessment.

MUNICIPAL RESPONSE TO ENVIRONMENTUL ASSESSMENT ACT REQUIREMENTS

To date 10 Individual environmental assessments have been completed by municipalities, 4 of which included public hearings before the Environmental Assessment Board (Ontario Ministry of the Environment 1988). No statistics are available on how many class environmental assessments have been completed by municipalities. However, the Association of Ontario Municipalities anticipated that approximately 1,700 would be prepared in the first three years following approval of the class environmental assessment processes for municipal roads projects and municipal sewage and water projects (Association of Municipalities of Ontario 1984: 12).

It can be expected that municipalities will differ with respect to their proficiency in meeting the requirements of the EA Act. Indeed, provincial government review documents for individual environmental assessments submitted by municipalities, and decision documents from public hearings of individual municipal environmental assessments, indicate that the individual environmental assessments completed by municipalities have ranged widely in quality (CHB 1983, 1989; EAB 1983, 1988; Province of Ontario 1982, 1983, 1984, 1986a, 1986b, 1988a, 1988b, 1988c).

There are many factors which may influence a municipality's ability to meet the requirements of the EA Act. These factors include the nature of the undertaking (scale, location, type) (Armour 1988), the nature of the environmental assessment process

(adversarial, quasijudicial) (Walsh, Ross & Yergeau 1988), the legislative framework regulating municipal planning and development (Association of Municipalities of Ontario 1984: 5-7), the state-of-the-art of impact assessment and related scientific research methods (Beanlands & Duinker 1983), the local and provincial level political climate (Pushchak 1985), provincial administrative practices (EAPIP 1988) and municipal organization and management practices (Andrews 1976: 150, Stearns & Montag 1974).

This research began as a pragmatic exercise directed towards identifying means which municipalities could enact themselves, to improve municipal environmental assessment practice. Therefore, the research became focused on the only factor out of those identified above, which municipalities have direct control over, namely, municipal organization and management practices.

Current organizational theory suggests that an in-depth organizational analysis must be carried out in order to properly understand an organization's current state and find ways to Improve its effectiveness. A technique put forward by Harrison (1987) requires the researcher to undertake an all-encompassing examination of the organization in question, including its inputs (resources), outputs, technologies, task and general environment, purposes, behaviours and processes, culture and organizational structure. The demands of such a study are great, and were deemed to be outside the resource boundaries of this research. However, it was decided to keep the basic framework of organizational analysis technique, and conduct a less extensive study. A number of municipalities were examined over the course of the research including, The City of Guelph, The Regional Municipality of Halton, The regional Municipality of Peel, The Regional Municipality of Waterloo, and The City of Mississauga.

MUNICIPAL ORGANIZATION & MANAGEMENT

In this work, an organization is taken to be a purposive system whose members exhibit concerted collective action towards an apparent purpose (Aldrich & Marsden 1988: 362). Organizations are taken to have the following properties: hierarchy of authority; rules, procedures, controls and techniques; formality of communication; specialization of functions and divisions of labour; employment of skilled personnel; and, specificity of purpose (Khandwalla 1977: 2-6). In this work, management is taken to be the setting of goals and the organizing and control of people, finances, time, equipment, and knowledge to meet those goals (Thompson & McKay 1984: 64).

Much of organization and management theory has been derived from the manufacturing and marketing of consumer goods, and from the provision of services (Thompson & Mckay 1984, Khandwalla 1977). However, the problems encountered in marketing,

manufacturing and servicing differ greatly from the problems encountered in conducting an environmental assessment (see table 1). Clearly, a system based on theory developed with a management view of issues may not be capable of dealing effectively with issues that arise during an environmental assessment.

This research has led to the conclusion that conventional organization and management practices by municipalities in Ontario are unable to deal effectively with the requirements of the EA Act. The basis for these conclusions will be discussed under the following headings: organizational structure; behaviour and processes; outputs and purposes; inputs; and, task environment. This will be followed by a number of recommendations which, if enacted, should improve municipal environmental assessment practice.

ORGANIZATIONAL ELEMENTS

1. Organizational Structure

Municipal organizational structure in Ontario follows the principles of bureaucracy based on hierarchy of control (Tindal 1982). The prevalent type of organizational structure used by municipalities in Ontario is the familiar pyramidal shaped councillor-committee structure. Municipal council, at the top of the pyramid, is supported by an ever widening structure comprised of council committees, department heads, middle managers and staff. Departmental responsibilities reflect the principles of functional organization, according to which the work of the municipality is divided along the lines of established expertise (i.e. planning, engineering and so on). Information flow follows the chain of command up and down the bureaucratic ladder. This form of organizational structure is prone to fragmentation, and creates difficulties in getting a coordinated approach to municipal operations (Tindal 1982: 39, Cawfield 1985: 130).

As indicated in table one, environmental assessments involve tasks which are interdisciplinary in nature. Such tasks are best handled through the coordinated effort of various departments. However, a fragmented organization, such as described above, is likely to have trouble coordinating such work. The following anecdote from the City of Guelph provides a good case in point.

The City of Guelph's Engineering Department initiated construction of a major water pipeline through an important multi-use recreation and nature area without involving other city departments (most notably Parks and Recreation), or City Council, in a substantive fashion (Ron Kelly, Guelph Save the Trail citizen group, pers. corn. Sept. 20 1989). The engineering department failed to see the area other than as the best place to

put a pipeline. Strong protest on this point by citizen groups pressured the Minister of the Environment into requiring the City to undertake a class environmental assessment for the project (Clark 1997). The situation caused embarrassment at city hall (Guelph daily Mercury 1988a), and cost the municipality a good deal of money due to the delay of the project and the need to make alterations to plans (Guelph daily Mercury 1988b). These expenses were on top of what the environmental assessment studies cost. Some of the issues that precipitated the requirements for environmental assessment and the subsequent controversy of the assessment may have been avoided had the engineering department made other departments fully aware of the magnitude of the project at an early stage. The concerns that might have been raised by such early communication could then have been Incorporated into the original plans.

A recent Innovation as far as Ontario municipal organizational structure is concerned, is the chief administrative officer (CAO)[1]. The CAO form of organizational structure, in contrast to the pyramidal shaped councillor-committee structure, can be visualized as an hourglass. The CAO acts as a coordinating bottleneck between the committees of council above, and the department heads below. Thus, the CAO is the singular position which can keep abreast of both activities of council and activities of the line departments at the same time. This gives the CAO structure distinct benefits over the council-committee form of organizational structure in terms of the coordination of interdepartmental activities.

Municipal departments can also be grouped according to whether their main activities have to do with planning, implementation and operations, or provision of services. This research indicates that municipalities tend to centralize the primary responsibility for conducting environmental assessments with those departments involved in implementation and operations. Most usually this is the engineering or public works department. In fact, it was the municipal engineers association of Ontario who designed the two municipal class environmental assessment processes (Municipal Engineers Association of Ontario 1987a, 1987b). This places the environmental assessment process one-step behind the municipal planning processes despite that being the phase of planning and development where environmental assessment is most valuable (Twiss 1974: 5). As a result, the environmental assessment requirements have become another set of regulatory hurdles that the implementing department has to clear, rather than an integrated component of a comprehensive municipal planning and development process.

The municipality might be better served by placing the responsibility for environmental assessment within a *new* position that is independent of the line departments. A "Sustainable

[1] CAOs have been used by American municipalities for decades (Kemp 1985: 201).

Development Coordinator" could be given the ability to become involved in the activities of both the planning and the implementing departments. This would create a matrix arrangement, which has been identified as an effective structure for dealing with the complex, interdisciplinary types of problems raised by environmental assessments (Thompson and McKay 1984).

2. Behaviour & Processes.

Three facets of organizational behaviour and process have been identified as being particularly important for municipal environmental assessment activity. These are teamwork, leadership and decision making.

2.1 Teamwork

The complex problems presented by environmental assessments are best handled through interdisciplinary teamwork. However, there are strong barriers to effective interdisciplinary teamwork within municipal organizations. First, municipal employees have limited interdisciplinary training. This is because opportunities for interdisciplinary experience is limited within the traditional university setting (Heberlein 1988). Later, following graduation, the new municipal employee is presented with the narrow career path offered by the bureaucratic municipal organization (Buetow 1986: 118). Within some municipal organizations, even opportunities for informal interdepartmental communication, such as that which occurs during lunches and breaks, is limited. For example, the Regional Municipality of Halton's planning and engineering departments are housed in separate buildings located in different parts of the municipality. The overall result of this situation are municipal organizations filled with individuals who, while competent in their own fields, have little understanding or sensitivity for the work of other disciplines.

Second, municipal organizational structure does not support interdisciplinary teamwork. Environmental assessment teams have as their broad objective creativity[2]. They are challenged with finding novel solutions to old problems. Larson and LaFasto (1989) theorized that creative teams operate most effectively within a structure that provides freedom to explore possibilities and alternatives without restriction. Municipal organizations do not present this type of an environment. Rather, ad hoc teams are formed to fit in with the bureaucratic status quo. In such situations, team creativity becomes restricted by the filtering process of information flowing up and down the bureaucratic ladder.

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[2] There are three basic team structures: creative teams; problem solving teams; and, tactical teams (Larson and LaFasto 1989).

The overall situation has municipal organizations laking personnel with interdisciplinary experience and an ineffective interdisciplinary team structure. This situation can be reversed without the need for major change to the organization. First, municipalities should establish policy to hire personnel with interdisciplinary training or experience. At the same time, municipalities should act collectively, through organizations such as the Association of Municipalities of Ontario, to sponsor interdisciplinary research and training at the university level and at the retraining level. The Ontario Municipal Management Institute could take a lead role by including such training in its Professional Development Program for municipal managers (OMMI no date). Second, municipalities should develop an environmental assessment team that is autonomous from line department bureaucracy. Such a team could report directly to the CAO or a committee of council.

2.2 Leadership

Management theory suggests that leadership is the most critical factor in the success of any organization (Boucher 1985, Mott 1972: 117, Waterman & Peters 1982). Much has been written about leadership behaviours with the conclusion that leadership ability is an intangible personal quality very much dependent on an individual's personality (Boucher 1985). On the other hand, there are also organizational factors which govern the opportunities individuals have to exhibit leadership behaviours.

Municipal government in Ontario was not designed to provide strong leadership. There are two reasons for this. First, the head-of-council holds no special power. Each individual on council, including the head-of-council, receives equal voting power. Second, council, which is made up of councillors who are elected as individuals, lacks cohesiveness (Tindal 1982). Third, in the council-committee form of organizational structure, resolutions of council are open to interpretation by each of the department heads. This could result in departments working toward different ends, or even against one other.

The CAO form of organizational structure introduces a mechanism to facilitate effective leadership. First, a CAO can provide a single interpretation of council resolutions to each of the department heads. At the same time, the governance process remains Intact, and the benefits of reflective, open decision making council was designed for remain. Second, the CAO can be put in charge of personnel. This creates more of a consistent "one man one rule" environment where employees have a better idea of where they stand, and of what's expected of them. On the flip side, less work for council means more time to concentrate on the substantive issues that affect the destiny of the community.

2.3 Decision Making: Who Decides?

Ontario has a two-tier system of local government. For example, the City of Burlington and the towns of Milton, Halton Hills and Oakville are all lower-tier municipalities within the upper-tier Regional Municipality of Halton. The decision-making body of the lower-tier municipalities are comprised of elected officials. The decision-making body of the upper-tier municipality is comprised of appointees from the elected bodies of its member municipalities.

Problems develop when the agendas of the lower-tier municipalities conflict with each other or with the agenda of the upper-tier municipality. This type of conflict developed between the Regional Municipality of Halton and the Town of Milton during an environmental assessment for a regional sanitary landfill site (CHB 1989). Regional Council had as an agenda item identification of potential sites for a regional sanitary landfill. Milton Council had as an agenda item opposition to a regional landfill in Milton. Subsequently, Milton Council passed a resolution prohibiting sanitary landfills within the Town's boundaries. This manoeuvre complicated and lengthened the assessment proceedings while providing nothing in the way of meaningful input towards finding a suitable site for a sanitary landfill with in the region.

The above case is an example of the NIMBY (not in my backyard) syndrome working at an organizational level. The NIMBY response of communities and individuals to the siting of facilities regarded as hazardous, or in some way noxious, has become a significant public policy problem (Armour 1987: 1). The Siting Process Task Force on Low-level Radioactive Waste Disposal (1987: 50) concluded that "if facility siting is to become less confrontational and more cooperative, fundamental changes in the method and process of site selection are necessary". To this end the Task Force recommended a consultative siting process which seeks to avoid the '@decide, announce, defend" approach to facility siting (Siting Process Task Force on Low-Level Radioactive Waste Disposal 1987).

An analysis was carried out on the reports of the Environmental Assessment Boards that conducted the public hearings for four individual environmental assessments sponsored by municipalities (CHB 1985, CHB 1989, EAB 1983, EAB 1988). The analysis was aimed at identifying the major issues that were faced by each of the proponent municipalities. The results of the analysis indicates that justification of the site for facilities and justification of the site-selection process for facilities were two major issues common to each of the assessments. In each case the assessment process became a confrontational battle over a decision rather than a iterative planing and decision making process. A consultative form of decision-making, such as the one recommended by the Siting Process Task Force on Low-Level Radioactive Waste (1987), may

help municipalities to avoid such controversial situations for future environmental assessments.

2.4 Decision Making: How to decide?

There are three characteristics of municipal decision-making that may affect a municipality's ability to respond to the requirements of the EA Act. First, municipal councils are overloaded with the number of decisions they attempt to make (Bernard 1985: 284). As a result, the governance process seems to be overloaded with decisions "that have to be made" but which contribute little to solving the critical issues affecting the community's destiny. Second, elected officials tend to focus on immediate payoffs (Bernard 1985: 284). Long range plans do not have political payoffs for most councils, yet they are the keystone of effective governance. Third, most municipalities have a deeply ingrained tendency to make decisions in isolation rather than as part of a comprehensive plan, and to perpetuate established programs and spending patterns rather than considering new priorities (Tindal: 61).

A catch-phrase that encompasses these characteristics of municipal decision-making is "crisis management". Municipal water supply practices provide a good example. Water is priced by municipalities in a way that produces a number of undesirable results. Flat rate pricing, the most common strategy for water pricing 1. discourages conservation of supply, 2. requires municipalities to overinvest in water supply and wastewater treatment facilities, 3. contributes to urban sprawl, 4. creates environment and resource concerns over the effects of water withdrawal and effluent release, and 5. leads to water shortages at times of peak demand (hot summer months) (Millard 1984, Bird & Slack 1983). As urban population densities increase, many municipalities are increasingly faced by crisis situations precipitated by their water pricing strategy. Municipalities tend to deal with each crisis in Isolation (i.e. lawn water restrictions in case of hot weather shortages or increasing wastewater treatment capacity in response to effluent quality concerns), rather than as part of an overall long-range strategy to reduce demand.

EAs raise Issues that have long-range implications. Crisis management simply cannot deal with these issues effectively. An alternative is to establish management practices that anticipate and avoid such as strategic planning (Thompson McKay 1984). The Planning Act (R.S.O. 1983 c.1) provides the basis for municipal Official Plans, which set out the general objectives of the municipality and the policies that guide future land use. Thus, the Official Plan, which is essentially a strategic planning exercise, should be updated to include perspectives on environment and resources issues. Environmental audits should be included in this update. An environmental audit is a professional review of past performance to detect and correct mistakes and assure compliance with existing legislation

(Thompson & McKay 1984). The information generated during periodic environmental audits could be fed into the Official Plan updating process. This would form the basis for an effective systems approach to resource and environment issues. However, incorporating environment issues into the official plan is not without problems. These problems will be addressed in the following section.

3. Outputs and Purposes

The main outputs of municipalities are basic services such as fire and police protection, roads, water, electricity, and waste disposal. Land use planning is the primary mechanism by which municipalities determine where homes and factories should be built, where parks should be provided, and where hospitals, schools, roads, sewers and other essential services should be located. The Planning Act (R.S.O. 1983 c.1) sets out the ground rules for land use planning in Ontario, including the provisions for Official Plans.

Impact assessment is most effective when incorporated into the earliest stages of planning. This suggests that impact assessment concerns should be incorporated into the official plan development process. However, the Official Plans examined during this research indicate that has been done only on a limited basis. For example, the City of Guelph has no substantial reference to impact assessment in its Official Plan other than motherhood goals to "protect the natural environment and other distinguishing features of the landscape" and to "protect the heritage and unique character of the urban environment" (City of Guelph 1987: 4). There are no mechanisms identified in the plan which is designed to insure such protection. The Regional Municipality of Waterloo's Official Plan has more substantial references to environmental assessment. The introduction states that policies in the plan "have regard for the social, economic and environmental implications of development and the public costs and benefits of development" (Regional Municipality of Waterloo 1985: l-l). The plan also proposes mechanisms aimed to insure that official plan policy objectives for environmental protection within specifically identified environmentally sensitive areas are met. Herein lie the problems.

Official Plan policies and plans are not subject to environmental assessment scrutiny. For instance, The Regional Municipality of Waterloo's policy to protect environmentally sensitive areas does not take account of broader scope environmental issues, such as water management. Recent developments in impact assessment indicate that environmental assessments of plans and policies should be carried out (Bridgewater 1989: 4). Municipalities should begin now to incorporate impact assessment processes with official plan processes in anticipation of being required to do so. An internal document leaked from the provincial government

recommends the integration of the Planning Act (R.S.O. 1983 c.1) and the EA Act into a "Sustainable Development Act" (Government of Ontario 1989). This indicates that the provincial government is already moving in this direction.

There are two paths municipalities can take in moving towards such a goal. First, those municipalities that do not have an Official Plan could solicit input from local groups on the environmental impacts of draft official plan policies. Municipalities that already have official plans could solicit this input during the 5 year updating process. Second, a citizens advisory committee could be established to provide input on environment and resources issues nature into the Official Plan planning process. This will be discussed further in Section 5.

4. Inputs

Inputs are "the raw materials, money, people, information, and knowledge that an organization obtains from its environment and that contribute to the creation of its outputs" (Harrison 1987: 23). This research has identified information management and human resource practices as important factors for the success of municipalities in conducting environmental assessments.

4.1 Information

A common malady of municipal environmental assessments has been a lack of long-term broadly based information and understanding about the systems under study (Taylor 1979: 16). Readily available base-line information helps to: facilitate issue scoping; focus the line of inquiry of intensive studies; shorten the time required for intensive studies; promote early detection of problems or anomalies; increase the accuracy of predictions; and, reduce the level of uncertainties (Beanlands & Duinker 1983).

Municipalities are not in the practice of collecting long-term, broadly based information. Two factors account for this. First, long-term information programs demand a sustained coordinated effort between departments. As already pointed out, conventional municipal organizational structure is not conducive to coordinated action. Second, long-term information programs require a shift in established spending patterns with no corresponding short-term political payoffs for elected officials.

Two recent developments may help to offset the factors that inhibit the collection of long-term information. First, issues on the political agenda have recently widened to include "green" concerns. Certain prominent thinkers have envisioned green concerns as the dominant political issues of near-future politics (Suzuki 1988). This suggests that allocation of resources for environmental protection, such as that required for the development of a long-term information program, may soon have

short-term political payoffs. Second, developments in computer technology provides even small municipalities with the opportunity to proceed with a computer based geographical information systems (GIS). A GIS would promote improved interdepartmental coordination, since each department would work with a common data base. For instance, information collected as part of a monitoring program by the parks and recreation department could be accessed readily by the engineering department during the course of a feasibility study. The system could even be designed to raise a flag when confronted with a conflicting land use. For example, the Guelph case of a water pipeline conflicting with the recreational uses of a natural area.

4.2 Human Resources

Environmental Assessments present municipal organizations with complex problems. "Solving complex problems demands the integration of many divergent points of view and the effective collaboration of many individuals" (Larson & LaFasto 1989: 17). However, the staff of municipal organizations have traditionally been dominated by the planning and engineering professions. The Environmental Assessment Board had this to say about the composition of a team that prepared an environmental assessment for the Regional Municipality of Metropolitan Toronto:

> "the evaluating team consisted of engineers and planners and it is the Board's opinion that the formats and weights assigned to the various criteria within the factors, reflect, to a significant degree, the composition of the team. A different group, having a broader range of expertise including the fields of social impact and the natural environment would, perhaps, have developed a substantially different chart with different ratings." (EAB 1988: 18).

The Environmental Assessment Board concluded that much of the controversy surrounding the environmental assessment, and the subsequent delays and costs, was a result of the narrow focus taken by the evaluating team (EAB 1985). That conclusion is a clear message regarding what the Environmental Assessment Board expects to see in terms of team expertise in future environmental assessments. Yet municipalities are still slow to hire natural science or social impact professionals. Rather, they have preferred to remain with the historical practice of farming work out to consultants.

In-house expertise has four advantages over outside expertise. First, in-house expertise improves coordination of long-term information gathering. Second, in-house expertise provides for continuity of environmental planning within the organization. This provides for improved sensitivity to the

cumulative impacts of many projects. In comparison, present municipal policy directs outside work to be spread evenly among the consulting community (Regional Municipality of Waterloo 1984). Third, in-house expertise provides council with on-hand expert advice with a sensitivity for a community's idiosyncrasies. Consultants may not be aware of peculiarities or special circumstances in the community. Forth, in-house expertise improves the municipalities ability to critically evaluate the reports of consultants. Community groups often have access to natural science expertise, and will quickly exploit any weaknesses they might find in consultants reports.

The main disadvantage restricting in-house expertise is money. Nevertheless, large municipalities should be able to justify the expense in light of the long-term benefits which should accrue. Given recent developments in the political climate, council may be able to reap political gain from such a move. However, small municipalities may not be able to justify the added financial burden of full-time natural science expertise. Small municipalities in this situation may be able to band together and develop an arrangement whereby an individual is shared among them. Alternatively, they might look for an individual who can split their time between environmental assessment activities and planning activities.

5. Task Environment

The task environment includes all the external organizations that are directly related to an organization's main operations and technologies. It is important for the municipality to keep informed of trends and developments in the task environment. One means is to develop in-house expertise to provide a window on "professional" trends and developments. However, a different mechanism is required to keep abreast of "community" trends and developments.

The Regional Municipality of Halton and the Regional Municipality of Waterloo's Environmental and Ecological Advisory Committees perhaps respond in part to that need. These committees were officially formed to act as advisory bodies to their Regional Committee of Planning and Development on matters of general environmental concern, As members of the council are citizens at large, the committee brings the perspective of the public into the sight of council. An adjunct function of the committees is to provide input to environmental assessment reports required of the municipality under the EA Act (Regional Municipality of Halton 1982, Regional Municipality of Waterloo 1985). However, the environment and ecological advisory committees are restricted to report on matters which affect areas designated as environmentally sensitive under the Region's Official Plans. These restrictions mean that these municipalities still do not have a window on broader environmental concerns.

An alternative means of establishing an effective window on the community is to establish a round table on the environment and economy, as has been recommended by the National Task Force on Environment and Economy (1987). Round tables would initiate dialogue between special interest groups in the community and in turn help dispel the "tunnel vision" of special interest groups which precludes a "city wide view".

Summary and Recommendations

This research has identified a number of municipal organizational and management practices which restrict the ability of municipal organizations to deal effectively with the requirements of the Environmental Assessment Act (R.S.O. 1980 c. 140). These practices have to do with organizational structure, behaviour and processes, outputs and purposes, inputs, and task environment. The following recommendations are directed towards improving municipalities ability to conduct environmental assessments.

1. Municipalities, which at present have the council-committee form of organizational structure, should switch to the Chief Administrative Officer form of organizational structure.

2. Municipalities should integrate environmental assessment processes with the municipal official plan program. This should include requirements for periodic environmental audits.

3. Municipalities should develop in-house environmental assessment expertise by creating a "Sustainable Development Coordinator" position. The Sustainable Development Coordinator would assume environmental assessment responsibilities, as well as general environment and resource responsibilities. The Coordinator would act outside of the line departments and report directly to the Chief Administrative Officer.

4. Municipalities should develop employee pools with interdisciplinary experience and/or training. Collectively, municipalities should sponsor interdisciplinary research at both the university level, and at the re-training level.

5. Municipalities should establish a round table on environment and economy as recommended by the National Task Force on Environment and Economy (1987)

6. Municipalities should explore alternative forms of decision making such as the consultative process recommended by the Siting Process Task Force on Low-Level Radioactive Waste (1987).

7. Municipalities should establish an environmental information program. The program should Include a **state-of-the-**

environment report and a monitoring program to determine how it is changing. The information would be a valuable component of a computer based geographical information system.

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Table 1. A comparison of the ways management and environmental science view the issues raised during an environmental assessment. Based on Thompson and McKay, 1984.

		Paradigm	
		Environmental Science	Management
EA Issue	Problem /Definition	complex, difficult to agree	costs vs. servicing opportunities
	Boundary Conditions	large, unbounded inter-jurisdictional	(finite and definable
	Time Factors	very long	short and sharply defined
	Components	nonquantifiable	(quantifiable
	Externalities	(are part of the problem	ignored to the extent of the law
	Tasks	"interdisciplinary", teamwork is essential	discreet and definable
	Environment	all encompassing	outside factors that impact operations