

Evaluation in Integrated Waste Management: Understanding the Crisis and Improving Practice Through Planning Theory

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Résumé

Les planificateurs ont consacré des millions de dollars et des années à l'élaboration de plans de gestion des déchets et à la poursuite d'études d'impact sur l'environnement (EIE) afin de permettre la mise sur pied de centres de traitement des déchets en Ontario. Ces efforts ont souvent échoué. Résultat : des millions de tonnes de déchets sont exportées chaque année aux États-Unis, augmentant ainsi les impacts environnementaux et laissant le Canada tributaire de règlements transfrontaliers instables. La crise des déchets qui découle de cet état de fait est difficile à évaluer, car les programmes de recyclage et de compostage se développent rapidement. Même si on estime aujourd'hui qu'un changement de paradigme a eu lieu, la planification « rationnelle » ayant été remplacée par un modèle plus axé sur la « communication » (concertation et collaboration), ce changement ne s'est pas matérialisé, dans les barèmes d'évaluation. D'une part, cet article propose des critères qu'on pourrait appliquer à la planification de la gestion des déchets. D'autre part, il analyse une étude de cas. Les résultats indiquent que l'évaluation de la planification de la gestion des déchets sur la base de la doctrine rationnelle classique a toujours un rôle important à jouer. En s'inspirant d'autres formes plus diversifiées de savoir, dont les récents débats portant sur la théorie de la planification, il appert qu'une orientation plus qualitative fournit de meilleures pistes de solution pour la gestion de la crise des déchets.

Mots clés: gestion des déchets, évaluation, théorie de planification, impact sur l'environnement

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Abstract

Planners have invested millions of dollars and years of studies developing integrated waste management plans and environmental impact assessments (EIA) to permit waste disposal facilities in Ontario. These efforts have largely failed, resulting in the export of millions of tonnes of waste per year to the USA, thereby increasing environmental impacts and leaving Canada vulnerable to unstable trans-boundary regulation. The waste crisis is difficult to evaluate because at the same time recycling and composting programs are rapidly increasing. Although planning is currently thought of as having moved from the rational to a communicative paradigm, this change has not really caught on in plan evaluation. This paper suggests criteria that may be applied to waste planning and analyzes a case study. The results indicate that evaluation in waste planning using the conventional rational doctrine still has a valuable role to play. Drawing from more diverse forms of knowledge, consistent with recent debates in planning theory, a more qualitative orientation provides improved guidance in dealing with the waste crisis.

Key words: waste management, evaluation, planning theory, environmental impact assessment

Introduction

CBC Reporter:

“The Chair of Toronto’s Public Works Committee says he doubts Ottawa will stay out of the Adam’s Mine issue. The Federal government is considering a request for an [federal] environmental assessment of the mine. The City of Toronto wants to ship its garbage to the mine starting in 2002. Yesterday City Councillor Bill Saundercook made a quick trip to Ottawa with his staff to appear before the Federal Environment Committee.”

Bill Saundercook:

“The focus seems to be on why Toronto is so far behind in the new and emerging technology and we tried to explain to them that the disposal problem has been something looming over Toronto for the last dozen years; and, you know, 150 million dollars in total has been spent up ‘till the start of

this process and, in all those dozen years, they spent that amount of money and came up with nothing.”

CBC Reporter:

“Saunders said he told the Committee members that an [federal] Environmental Assessment will mean that Toronto will have to find a new place to dump a million tonnes of garbage a year.”

“Here and Now”, CBC Radio One
September 27, 2000, 5:34 p.m.¹

Over the past 30 years, environmental planners in Ontario have invested many millions of dollars and many years of work in environmental impact assessments (EIA) for waste disposal facilities. However, this massive outlay of time and money has resulted in the implementation of few new waste-disposal facilities. Siting failures have been blamed on, among other things, NIMBY activists, political interference, false perceptions of risk, inadequate public participation, and overly rigorous EIA regulations (Temmemagi 1999; Shaw 2000; Maclaren 2004). “Siting waste management facilities has become a conflict-ridden process characterized by massive public opposition, disagreement over the environmental impacts of the facilities, and a general lack of faith in the traditional regulatory or closed approach to facility siting” (Maclaren 2004, 391).

Conflict-ridden planning processes have left the Greater Toronto Area and many other municipalities in Ontario with no approved disposal capacity. The net result is a capacity crisis that sees most solid waste being exported to private-sector landfills in Michigan. Export has become the subject of much public and political controversy, garnering significant attention in Michigan and Ontario over such issues as the environmental impacts of long-haul truck transport. Furthermore, the social equity implications of Toronto not being able to deal with waste in its “own backyard” has created another major trans-boundary political football between Canada and the USA. The issue garnered international media attention in the 2004 presidential election campaign. As reported in the Toronto Star: “John Kerry has vowed to immediately ban Toronto’s trash shipments into the border state of Michigan if he wins the Nov. 2 election... Kerry said... ‘George W. Bush has let Michigan become Canada’s landfill’” (Maskoll 2004).

In order to understand the history and context of the waste crisis, it should be noted that prior to the passing of environmental regulations in the 1970s in Canada and the USA, waste planning was conducted in an *ad hoc* manner (Tarr 1985). With the introduction of sanitary landfilling, concern moved from late 19th century public health issues to economic efficiency in the early to mid 20th century. The primary role of waste management, dominated by engineering, was to dispose of waste as efficiently as possible by burning or burying it (Anderson 1993; MacLaren 2004; Melosi 2005).

The passing of the US National Environmental Policy Act in 1969 and the Canadian Environmental Assessment Review Process in 1973 (and similar state and provincial statutes) led waste planning away from an economic efficiency model to a comprehensive approach based on EIA's rational paradigm. This paradigm systematically examines the bio-geo-physical and socio-economic impacts of alternatives, hence the inclusion of environmental planners on study teams became necessary. This change resulted in the examination of waste management as a holistic system that includes reduction, reuse, recycling, composting, incineration, and transfer; emphasizing a regional approach in order to achieve economies of scale (Shaw 2000). This approach is widely recognized as "integrated waste management" and has become standard planning practice in western countries (Tammemagi, 1999; Shaw, 2000). Ultimately a landfill is recognized as a necessary evil associated with that integrated system.

Notwithstanding this new environmental focus to waste planning, politicians and the media are often fixated on the waste "crisis" (Tammemagi 1999). As Melosi (2005, 195) points out, "the idea of a [garbage] crisis was a convenient, albeit a relatively simplified way, to label a complex set of issues." Despite this crisis, waste is being managed and disposed of in an orderly way and the 3Rs (reduction, reuse, recycling) are resulting in significantly increased waste diversion across Canada.

As a result of this dichotomy, it is difficult to evaluate the relative success and failure of waste planning in Ontario. Furthermore, government agencies are reluctant to conduct post-planning evaluations, and planning theory has generally neglected to address waste management as a field of planning practice (Hostovsky 2000). This paper is not intended to be a treatise on planning and evaluation theory but rather to draw upon the author's professional practice and recent doctoral research with a view to improving waste planning practice. As Friend (2004, 256) pointed out, "most practicing environmental

planners usually have no pretensions themselves to be seen as theorists or even developers of planning methods... Yet, as partners in the development of methods and of theory, they do bring a realistic appreciation of the multiple sources of power in public policy arenas.” Indeed, Friend and Hickling (2004) have argued that planning theory needs continued momentum in the development of theory that draws directly on planning practice, and to influence practice just as directly.

The objective of this paper is to complement practice and theory by exploring criteria for determining planning success and failure in integrated waste management. In other words, *what direction can be garnered from planning theory to effectively evaluate waste planning and how can evaluation improve future waste planning practice?* The hope is that Canadians can continue to divert waste with the 3Rs, and at the same time take responsibility for disposal that is more cost and time effective and less socially divisive.

Program Evaluation in the Literature

Evaluation research has become a robust field of study (Seasons 2003). Evaluation, described by Neuman (2000, 27) simply as “applied research that addresses the question, did it work?” is related to, but distinct from traditional social research. While it uses many traditional social research methods, evaluation takes place within a political and organizational context, which can influence the evaluation process.

Some critics of the dominant methods of evaluation research suggest that program evaluation is too concerned with proving whether a program or initiative works, rather than with improving programs (Guba and Lincoln 1989; W.K. Kellogg 1998). They point to the need for a post-positivist approach that is more responsive to stakeholder needs, one that is based on qualitative and reflective research aimed at improving practice. Guba and Lincoln (1989) suggest that previous generations of evaluation (i.e. measurement, description, judgment) were hampered by political interference, ethical dilemmas, imperfections and gaps in data, and inconclusive deductions. They call for a fourth generation of evaluation – “process.” They argue that the failure of evaluation is the result of unquestioned reliance on the positivist paradigm of inquiry (consistent with planning’s primary paradigm – the rational model).

Evaluation in the Context of Urban and Regional Planning

Shortly after the Second World War, massive growth in urban planning and land development led to the proliferation of evaluation in planning. By the end of the 1950s, large-scale quantitative evaluations were commonplace and were used to compare programs and to test social science hypotheses or professional practice principles. These rational evaluation methods used utilitarian approaches to define the public interest (Alexander 2002). The conventional means-ends doctrine of plan evaluation looks for conformity between plan recommendations and plan implementation as the true litmus test of planning success.

Although some planning researchers still claim the profession lacks a robust, quantitative methodology that can systematically evaluate plans (Laurian et al. 2004), others have criticized the underpinnings of conventional approaches. One of the first to do so was Hudson (1979). He turned a critical eye on the prevailing model in planning theory, the “synoptic” or rational comprehensive method (RCM), described by Faludi (2004, 226) as “an old-timer among theoretical issues”. Baer (1997) updated planning evaluation theory noting that “plan critique” is rarely systematic and analytic. Like book and movie reviews, it depends entirely on the judgment of the evaluator. Murtagh (1998) confirmed Baer’s hypothesis by emphasizing the need to combine the technical requirements on measurement with non-traditional qualitative techniques. This places more importance on values and the credibility of the evaluator. However, overall the literature indicates that planners have few guidelines for evaluating plans, despite decades of discussion (Baer 1997; Baum 2001).

Others have also pointed out that it is possible for a plan to meet conformance criteria, yet still lead to an undesirable outcome. Faludi and Altes (1997) argued that sometimes planning works on trial and error, and the opportunity should be given to planners in some cases to fail. Friend (2004) reminded planners that plans are not created to be implemented; rather, they should be used as guides to effective decision-making. As a result, a special case can be made for “failure-as-success” when social learning is the result. “Planning, being a communicative, interactive process” (Faludi 2004, 226) can transcend the actual need for or use of a facility or policy.

Hoch reiterated these notions calling for planners to place less emphasis on rational evaluation even though it offers objectivity and precision. He also points out that “rarely do professional planners evaluate plans, or at least not in the same manner as they go about

making them” (2002, 57). Laurian et al. (2004, 471) went as far as to say that “planning professionals know little about the implementation of plans... as a result, comments by planners and theorists on the success or failure of plans rely on assumptions rather than empirical assessments.” Seasons (2002, 2003) confirmed these notions and exposed an under-use of monitoring criteria and indicators in municipal planning departments as well as a reliance on quantitative measures in municipalities that did evaluate.

In summary, there are two camps in plan evaluation:

1. Conventional — a quantitative approach based on means/ends, plan conformity and implementation, leading to “performance” criteria;
2. Post-rational — a qualitative approach that uses process communication, mutual understanding, reflective practice, social learning, and social justice, leading to “communicative” criteria.

Evaluation Criteria Development

In order to evaluate the waste planning case study, performance and communicative criteria were developed and related to indicators. The criteria were designed following guidance distilled from published and grey EIA literature, including numerous policies, guidelines and reports from stakeholders such as the Canadian Environmental Assessment Agency, environmental NGOs, EIA practitioners (Armour 1988), the Canadian Environmental Assessment Research Council, the Ontario Ministry of the Environment (1994a), the World Bank, the International Association for Impact Assessment, and academics (Morris and Therivel 1995; Randolph 2004; Dearden and Mitchell 2005).

Indicators are proxy measures designed to be inclusive of the multidisciplinary dimensions of planning (MacRae 1985) but as Wong (2002) points out, there has been a general lack of research on their utilization in plan evaluation. Nevertheless, in environmental planning they are essential to evaluating change in an impact variable and often involve the examination of standards and thresholds (Randolph 2004; Dearden and Mitchell 2005). This study’s selection of indicators was influenced by research and theories in EIA and integrated waste management to enable the evaluator to make linkages between theory and measurement (Wong 2000, 2002). The author developed a large

number of questions for each criterion (Hostovsky 2002), and this paper will briefly mention a few of them, highlighting certain criteria.

In terms of rationalist “performance” criteria, the literature indicates that conformance, effectiveness, completeness, accuracy, clarity, efficiency, and documentation are critical. Conformance is clearly the most important rationalist criterion. Laurian et al. (2004) suggest that this conceptually simple notion focuses on planning outcomes and the linkages between plans and actual development. An EIA may be considered effective if information gathered contributed to decision-making. In order to apply this criterion, the evaluator must first determine how well information was gathered, and contrast those results with decisions made.

Completeness, accuracy, clarity and reliability are key characteristics of good environmental planning in the literature. Indicator questions included: Completeness — are there any key omissions and are all key issues stated? Accuracy — are there any factual errors? Reliability — are there obvious biases? Clarity — is the evidence marshalled to provide support for the plan’s preferred conclusion? Efficiency — are decisions timely relative to other project decisions and can reasonable costs be determined? Documentation — is the environmental plan clearly and coherently presented so that it can be easily understood, and decisions made based on its presentation?

The second group of criteria, communicative, recognizes that it is possible that a plan can meet performance criteria, yet still lead to an undesirable outcome. Good implementation cannot make up for bad policy. “In other words, when departures from a plan are rational or necessary, the plan may be considered implemented even though planning decisions depart from its policies” (Laurian et al. 2004).

The first communicative criterion naturally addresses “communication” — was the plan a good vehicle to communicate with stakeholders in a meaningful and equal manner? Was communication comprehensive, sincere, legitimate and truthful? Was there full disclosure of information? Were all views accommodated? Were decisions and commitments explicitly identified for all participants? “Awareness” is another important criterion addressed in the study — does the plan raise choice to a higher level of awareness about the issues? Finally, criterion three addresses democracy — does the plan promote democratic values? Was the plan imposed on stakeholders or was there free choice?

EIA Case Study

In this section I examine a well-known and well-documented integrated waste plan — the Wellington-Guelph Waste Management Master Plan (WMMP), in order to determine how these criteria sets apply to evaluating this case study. This Master Plan took more than a decade to complete at a cost of between \$6 to \$8 million dollars (Clark and Prine, 1995; Ali, 1997).

This case represents failure-as-success. The failure to find new landfill and incineration disposal capacity (one incinerator and four separate site selection processes) coincided with one of the most aggressive 3Rs systems in Canada, with a recycling capture rate of approximately 60% (Otten 2001). As a result, this case study provides an opportunity to examine EIA-integrated waste planning dynamics.

The City of Guelph (pop. 106,000) is surrounded by the rural County of Wellington (pop. 187,000), about a one-hour drive west of Toronto. In May 1983 the municipalities received 50% funding from the Ministry of the Environment under the Waste Management Master Plan Program. This was triggered by the need for new landfill capacity in the City and County. Since Ontario's Environmental Assessment Act requires a comparative impact assessment of functionally different alternatives for waste management (i.e. landfill), this integrated waste management plan addresses the typical alternatives previously overviewed. The Act also requires consideration of a second set of alternatives — alternative "methods," which compels environmental planners to comparatively evaluate potential sites in order to select the "best" one. Generally, overlay mapping is used to identify potential sites and multi-criteria decision making techniques are used to rank order them (Ontario Ministry of the Environment 1994b).

A Consultant's Terms of Reference to conduct the Waste Management Master Plan was released by the Steering Committee. With a budget of \$67,000, the goal of the study was: "... to develop a Master Plan for the disposal of waste in the geographical area of the County of Wellington. The Master Plan will recommend a system or systems for waste disposal which are environmentally and economically viable and which provide the most sociological acceptable service for the citizens, for the waste generators and for the municipalities" (Guelph-Wellington 1983, 3).

Decisions were made by the Steering Committee whose members included the County Warden, two County Councillors and three City Alderpersons. An advisory Technical Committee was appointed and

included staff of the City, County and the MOE. The planning period for the Master Plan was initially set from 1985 to 2010. The Steering Committee believed at the time that the study could be conducted quickly and efficiently: "It is not expected that any undue delay will be created by the Steering Committee between successive stages of the study. On this basis consultants are advised that the final report is required within 12 months from the award of the Study contract" (Guelph-Wellington 1983, 9).

What followed was a 17-year, multi-million exercise. At least 23 waste management technologies, four separate landfill siting processes and an incineration site were considered through a "net effects" analysis (i.e., EIA) required under the Environmental Assessment Act.

Master Plan documents were reviewed at the City of Guelph Public Works Department offices in order to gain an intimate knowledge about the Master Plan process and provide insight into the appropriate research methodology. The author distilled the major decisions made during the planning process from this document analysis, presented in Table 1. The table clearly identifies four failed greenfield landfill sites, one failed expansion to the existing site, and one failed incineration facility. The document review also indicated that a single case study design was appropriate for this research. Single-case approaches are preferred to multiple-case approaches when the case explores a first of its kind or a pilot study; the case represents a critical case in testing a well-designed theory; the case examines an extreme or unique situation, and an opportunity exists to examine a previously inaccessible phenomenon (Patton 1990; Yin 2002).

Methodology

Besides the Waste Management Master Plan documents, other desktop sources reviewed included consultant reports, the formal EIA submission, the MOE official review of the EIA submission, media reporting, refereed publications on the case study, informal interviews and formal interviews with key informants. Key informants were members of major stakeholder groups, or stakeholders or Steering Committee members (i.e., decision-makers) identified in the Master Plan documents.

A total of 13 field interviews with key informants, representing the majority of potential informants involved throughout most of the 17 years of the study process, were conducted between January and August 2000. Respondents included City and County staff, lawyers for the proponent

Table 1: Chronology of Waste Planning Decisions

YEAR	KEY DECISIONS
1962	Guelph Eastview Landfill (non-engineered) opened on 50 acres
1975	Ontario's Environmental Assessment Act passed
1982	Waste Management Master Plan Program initiated Stage 1 Report "need" determined for a new waste management system
1984	First public meetings held – low turnout of citizens (12 to 15 individuals) First Stage 2 Report issued with first waste management system recommended: ·new landfill ·incineration – resource recovery (i.e., waste to energy) ·source separated recycling ·home composting (municipal composting rejected) ·long term expansion of all existing landfill rejected
1986	Draft Stage 2B Report issued: ·Incinerator proposed near the University of Guelph ·First preferred new landfill site selected in the Township of Peel (Alma) ·Public meetings held – large turnout of up to 400 angry people
1987	Public consultation program significantly increased in scope and opportunity for public input: ·Facilitation specialist hired to coordinate public consultation (LURA Group) ·Steering Committee meetings opened to the public ·Public Advisory Committee initiated with regular monthly meetings ·Public meetings, open houses, newsletters initiated Preferred new landfill in Peel Township rejected and second "greenfield" landfill site search initiated with revised selection criteria
1988	Vendor for waste-to-energy incinerator sought through a Request for Qualifications Wet/Dry technologies investigated
1989	Draft Stage 2B Report was revised - emphasis on 3R's Second landfill search terminated (preferred site in Peel Township abandoned)
1992	Third preferred landfill site selected N-4 (Nichol Township) by Master Plan
1993	Waste Management Master Plan stage 1, 2 and 3 documents completed and approved City Council rejected N-4 landfill site and separated from their association with the County in the joint landfill site search
1994	County, without City participation, formally submitted Environmental Assessment to the Minister of the Environment for the N-4 landfill which was approved
1995	Full-scale Wet/Dry recycling-composting operational Fourth landfill site search terminated County withdrew their Environmental Assessment for the N4 site from EA Act approvals
1997	Terms of Reference under the new EA Act submitted to the MOE for the long term expansion of the Eastview Landfill (later approved):
2000	Council withdrew EA for long-term expansion of the Eastview landfill
2003	Eastview landfill site closed. Residual municipal solid waste exported to private-sector landfills in Ontario and Michigan

and opposition groups, engineering consultants, City and County politicians, MOE staff, a newspaper reporter, a member of the public liaison committee, and members of public opposition groups. They can be grouped into three categories – proponents, opponents, and neutrals.

The survey instrument consisted of 12 open-ended, descriptive, structural and contrasting questions (as suggested by Neuman, 2000) designed to obtain respondents' perceptions about the planning and decision-making process, public consultation process, site selection, environmental impact assessment, landfill, incineration, recycling and composting. Finally, without offering criteria or suggestions, respondents were asked to give their opinion on what they considered were the successful and unsuccessful components of the planning process and their rationale, as well as their opinion of overall success/failure.

The interviews were tape-recorded and transcribed, and transcriptions were analyzed with a standard inductive analysis (Patton 1990), using word frequency and theme patterns. This work was cross-checked later using QSR N5 (Nudist) software. Criteria used to identify themes followed Patton (1990) and included relevance, emphasis, intensity, frequency, and universality. The themes were organized into categories, and quotations were extracted for use in the analysis, building a "thick description" (Strauss and Corbin 1990).

Two methods were employed to evaluate the success and failure of the case study. Firstly, key informants' opinions on successful and unsuccessful components of the planning process were assessed. Secondly, the performance and communicative criteria were applied to the case study by the author using the study indicators (informed questions).

Several themes, discussed elsewhere, emerged in the analysis. This paper focuses on the theme that the Waste Management Master Plan was widely considered to be both a success and a failure.

Key Informant Interviews

Key informants' responses were strong, decisive and passionate, yet clearly divided. Their reasons for seeing the planning process as a failure are reviewed first.

One of the most suggested explanations for failure was the inefficiency of the Master Plan as evidenced through the high financial cost of the study. Further, respondents across all three stakeholder groups noted the greater than 10 years of planning associated with the process. Some noted that it was an "ancient plan," or an "old plan,"

suggesting that the Master Plan had become redundant over time. One informant also noted that the Master Plan was a “cash cow” while another pointed out that accounting did not factor into indirect costs — “six million dollars . . . never imagine the amount of time spent by staff”. Another respondent noted:

“I think it just went on, and on, and on, and on, and on, and I think we wasted millions, upon millions, upon millions of dollars.”

A critical reason for the Master Plan’s failure was that there was “no outcome” in terms of disposal capacity, the traditional evaluative measure of judging planning success. A proponent noted:

“We didn’t reach a solution, we still don’t have a solution... all we’ve done so far is put the problem off.”

Two respondents commented that one disposal option, incineration, was a “lost opportunity” as this technology can reduce waste volume by approximately 90% (Tammemagi 1999). In terms of disposal capacity, both the old Eastview landfill expansion and export options were viewed as failures, yet at the same time somewhat successful. A proponent noted that it became “reasonable as time went on” to expand Eastview. Another suggested, “it’s the only thing that should have been considered.” A third noted that these were the only choices left (despite both choices being screened out of the planning process by EIA criteria), because of the Steering Committee’s inability to implement new landfill or incineration:

“It’s expanding the Eastview landfill site versus exporting our waste to another community. Those are the only options, there’s no political interest that I can detect nor any staff interest in ever doing another landfill site search.”

Another respondent noted that the decision to consider export was a failure. However, in an unambiguous statement s/he went on to explain that export could meet their immediate crisis situation:

“One way or another we’re going to export, and who the hell cares whether they export to the County of Wellington, or the Region of Waterloo, or the State of Michigan, who cares where it’s going. The farther away it goes the better off... if there’s a serious crisis in terms of our garbage you put it on a friggin truck and you send it to Michigan until you get the crisis resolved.”

Another disagreed — “I don’t like the idea of sending it to the States or sending it to somebody else’s backyard, I think you have to have direct responsibility.”

Clearly the reasons given for failure are consistent with conventional doctrines of plan evaluation, especially conformance. Conversely, there are many reasons why the Master Plan could be considered successful. The responses indicate that the main reason cited for success was the implementation of the wet/dry recycling program. Comments include:

“The identification and implementation of the wet/dry component... yeah, it’s a huge success.”

A City informant noted that wet/dry recycling “increased the level of awareness that the people had ... a very important thing” in terms of a successful outcome. A County informant noted similar feelings toward their blue-box program.

The second major reason that the Master Plan was considered a success was the notion that the community had become closer. Notwithstanding some anti-NIMBYist sentiment, there was evidence in the responses that the communities in Guelph and Wellington experienced some sort of bonding through this long waste planning process. A neutral informant pointed out that this study gave citizens a “sense of ownership or a sense of contributing, collectively, it work[ed].” Responses also suggest that people learned more about their communities and the natural environment — “*we knew where the fancy flowers were, and the artesian wells and knew where the brown trout is in our streams.*”

A proponent suggested that because the Master Plan was an experiment, it was a success.

"I'm not sure you can conclude that it was a failure, I mean it's sort of like scientific experiments, you have to, I was always taught that every experiment, the outcome of every experiment was a learning experience. That's the purpose of doing it."

This testimony corroborates what Faludi and Altes (1997) pointed out about communicative planning: that sometimes planning works on trial and error. Finally, and importantly, one opponent stated that not implementing a new landfill represented a success — "*... it was the right decision to make the courageous decision.*"

Although some of the responses are consistent with conventional approaches to evaluation, such as conformance with the recommendation to implement wet/dry recycling, most of the rationale for success centred on communicative ideals. Finally, one proponent noted that there had been an overall societal benefit for Ontario over the past two decades as a result of the waste planning process, eloquently summed up as follows:

"...so even though there was a lot of individual failed processes in the sense that they didn't culminate in a (landfill) site, or they had a site rejected, whatever, I see that there has been a societal change which I think that the whole legal process and planning process contributed to in ways that are sometimes difficult to trace. But there's no doubt in my mind that sitting here, 20, 25 years later, that we are much, much better as a society and as individuals in dealing with our waste."

Evaluation Criteria Applied to the Case Study

In terms of the researcher applied evaluation criteria and indicators, the Master Plan is ambiguous. Disposal capacity recommendations, arguably the driving forces of the planning process, were not implemented. However, in terms of diversion, a wet/dry program was initiated in Guelph in 1995. The following observations are generally consistent with the testimony of the key informants.

Overall, the Wellington-Guelph Master Plan appears to score well in all performance categories except conformance and efficiency, largely due to the well-prepared and exhaustive EIA documentation, which

resulted in a favourable government review under the *EA Act*. Thus the quality of the EIA appears to meet most environmental planning performance standards, except that the waste planners spent too much money and too much time and failed to implement the key recommendation regarding disposal capacity — a new incinerator and landfill site.

In terms of communicative criteria, the public consultation program, combined with a professional study facilitator, played a key role in influencing decision-making in the Master Plan process. Awareness about the study area's ecology, and waste management issues were heightened. The major recommendation (a new landfill site) was clearly unpopular, and this component of the plan was not imposed on the local residents. At the same time, however, lifestyle changes were not evident in the community in terms of waste reduction and reuse behaviour.

Summary of Findings

Overall, the Wellington/Guelph Master Plan scored well in both groups of plan evaluation criteria except for conformance. The main strengths of the plan are the exhaustive and well-documented EIA and the associated public participation program in the later stages of the study (bearing in mind that the original consultation program was ineffective). The evaluation identified the weaknesses of the Master Plan. The criteria used pointed out a major dichotomy between the performance and communicative criteria — what appears to be failure according to performance criteria may be considered a success according to communicative criteria, most notably the fact that the landfill site was never built.

That dichotomy was also evident in the key informant responses regarding the success and failure of the Master Plan. Proponent, opponent, and neutral stakeholders were adamantly opposed to the high cost and long time horizons associated with the planning process. They also believed that the lack of a disposal facility represented a failure in efficiency. This contention is supported by the significant amount of testimony opposing the export of waste to Michigan. Clearly respondents believed a local solution to be a successful solution. Creating a landfill or a waste-to-energy plant would have also satisfied their desire to see costs equated with benefits. These are failures one would expect when judging a planning process using traditional means-ends and plan conformance criteria. Hence an argument can be made that

the rational means-ends approach to plan evaluation still has a valuable role to play in waste planning: to identify weaknesses in the process and to assist in fiduciary accountability.

In contrast, most respondents also passionately believed the wet/dry recycling program to be a major success for the environment in Canada because it raised environmental and community awareness. People and communities have come together. Also, some extent respondents believed that the decision not to implement a new landfill site was the right and courageous decision: courageous because it “flies in the face” of approved planning objectives. These are outcomes one would expect from the evaluation of a plan based on communicative action.

Conclusion

Melosi (2005, 195) suggests the waste “crisis ignores its persistence over time, failing to question whether some waste problems were chronic, recurrent, or temporary. A deeper look... may help to clarify ‘crisis’ in the late twentieth century”. In terms of that deeper look, evaluation in waste planning has been limited by an adherence to the rational comprehensive model, especially conformance. This conventional model suggests that the Wellington-Guelph plan failed because the major goal established in 1983 to site a landfill (i.e. take local responsibility for waste) had become redundant over time. It is clear that the plan could have been conducted more efficiently in terms of time and money. Hence the rational approach to evaluation has a valuable role to play by protecting the public purse thereby ensuring fiduciary responsibility, so it could be argued that we should not make haste to abandon it altogether.

However, some interviewees saw the expansion of the Eastview landfill and / or export as a necessary decision. Considering that the Master Plan had consistently screened out these alternatives as environmentally problematic, this decision represents the triumph of incrementalism over the rational comprehensive model of planning. Notwithstanding, there was also a consensus among respondents that ideally communities should take care of their own waste disposal problems. Exporting waste to the United States was considered a temporary but necessary solution in light of the public opposition to greenfield sites. It may not have been the best choice, but given the constraints of Wellington-Guelph’s form of participatory democracy, it

was “good enough.” Hence the communicative approach to evaluation has a role to play in identifying what stakeholders consider a successful outcome, which may be more temporary and incremental than grandiose in character. The Wellington-Guelph Steering Committee’s slavish adherence to conformance was like blinders on their eyes leading to round after round of siting processes. They knew no other measure of success. To rectify this blindness, planners need to build in communicative approaches to scoping early in the planning process by explicitly identifying other potential successful outcomes. The case study indicates success may include identification of facilities such as innovative (and expensive) waste diversion technologies as well as more esoteric outcomes — building a sense of community, changing unsustainable consumer lifestyles, and environmental education. By using both rational and communicative approaches to evaluation in tandem, waste planners thus can avoid the mistake of repeated site selection processes that waste time and money.

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Notes

¹ Bowdens Media Monitoring Limited, Reference # 7E891-9

² Toronto has recently made a commitment to divert 100% of the waste stream in 10 years. “Backgrounder, August 2, 2000, Toronto’s “TIRM” Project.” As viewed at http://www.city.toronto.on.ca/involved/swm/disposal_bground.htm October 23, 2000.

³ EARP has been superseded by the Canada Environmental Assessment Act, 1995.

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