

**MITIGATION AND COMPENSATION ISSUES IN THE
ENVIRONMENTAL ASSESSMENT PROCESS:
A RESEARCH PROSPECTUS**

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FOREWORD

The Canadian Environmental Assessment Research Council (CEARC) was established on January 30, 1984 by the federal Minister of the Environment to advise on ways to improve the scientific, technical and procedural basis for environmental impact assessment. CEARC regards environmental assessment (EA) as a planning component that takes account of the ecological and related social implications of development activities.

Included among a number of broad areas of interest identified by CEARC as focal points for its research initiatives are mitigation and compensation. Although an integral component of the EA process, little attention has been given specifically to these areas of study. CEARC views mitigation and compensation as an emerging theme in the EA process and hopes to encourage a better understanding of the issues as well as the development of new and innovative ideas in the area.

In preparing this research prospectus, the Council began a consultative process that culminated in the development of a background document. This document represents the proceedings of a one-day workshop held in Ottawa (July 1986) and a series of case studies exploring and analysing mitigation and compensation issues. While this prospectus draws from the background document, it is not intended to be representative of that work. CEARC identified and set the priorities and research goals presented in this prospectus.

The Council is grateful to David Scriven for his substantial contribution to this prospectus.

For more information on the Council's general program of research, or on the details of mitigation and compensation research outlined in this prospectus, please contact:

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INTRODUCTION

Before the environmental assessment (EA) process was formalized, the concept of mitigation was an important part of assessing and reviewing development projects. The EA process has reinforced the need to devise measures to prevent or minimize adverse impacts on the natural environment resulting from proposed projects. The concept of mitigation encompasses this need both in the planning and on-site stages. As the scope of the EA process expanded to include social impacts, a further mechanism was required to address remaining issues of fairness and equity, particularly in regard to the distribution of the risks and benefits of the proposed project. In order to address such issues, compensation has become a recent addition to the evolving EA process.

Despite the more structured framework that has developed for the review and implementation of EAs, mitigation and compensation have remained relatively informal concepts. Little research has documented current practices, and examinations of the effectiveness of past mitigative and compensatory efforts have been rare. Further, few formal policies or guidelines for mitigation and compensation in the EA process have been developed in Canada.

It is not, however, entirely clear whether the best interests of society would be served by the more formal entrenchment of the two concepts. Some have expressed concern that the creative application of mitigation measures will be restricted by the development of formal guidelines within the EA process. Formal guidelines would, on the other hand, aid those charged with the task of reviewing proposed mitigation responses by providing a framework to facilitate fairness and accountability in the process. Such a framework would also ensure that all parties are on a common ground in their understanding of the concepts and the ground rules of the EA process.

To promote a better understanding of mitigation and compensation and to guide the advancement of the state of the art and its practice, the Canadian Environmental Assessment Research Council (CEARC) has identified mitigation and compensation as a major area for future research. This prospectus identifies some research issues in this field drawn from present EA approaches in Canada and outlines the role CEARC hopes to play in addressing some of those issues through a research program.

The prospectus is organized into three sections. The first presents a frame of reference that attempts to delineate the parameters of mitigation and compensation as evidenced by current practice. The second identifies three issues with a statement of priorities. The third section outlines a proposed strategy for further work with respect to these priorities,

FRAME OF REFERENCE

CEARC is committed to the view that priority should be given to the application of impact prevention measures in the earliest

possible stages of the project design and planning process. Decisions made during the design and planning stages of a project, concerning such matters as site-selection and the determination of appropriate technology, can eliminate a series of potential impacts and minimize the need for mitigation responses. Not all impacts, however, can be prevented through such an approach. Mitigation measures can then be used as a tool to minimize adverse effects.

The traditional EA decision-making framework is adversarial in nature in that the project proponent and a supporting government body, if any, are matched against the affected parties and the general public. In the traditional approach, mitigative measures are generally presented by the proponent and defended with voluminous scientific, technological, and economic data. The public is then asked to argue against the viability of these measures by detailing their shortcomings, often with limited funds and personnel at their disposal. Regardless of the effectiveness of arguments presented by the public, the final decision is usually left in the hands of an executive body of the government.

A trend away from the traditional adversarial approach, and toward a more collaborative approach, has become evident in recent years through processes such as negotiation and mediation. By providing the public with a role in problem solving, these non-traditional methods of decision making are slowly gaining acceptance by proponents, government, and the public. Collaboration between these parties ensures an increased degree of social accountability throughout the assessment and development stages. Further, the scope of proposed mitigative measures considered is often expanded through such an approach. The Council believes that effective public participation in the EA decision-making process is a vital link to the long-term validity of the resulting mitigation and compensation responses and encourages approaches which facilitate such a role for the public.

Within the traditional framework, mitigation and compensation measures generally fall within three categories: formal policy (including statutes and regulations); accepted practice; and negotiated measures. Examples of the first category are rare and, by nature, essentially inflexible. The second category is slowly evolving and not explicitly expressed. As a result, the public has placed demands on negotiated mitigation and especially compensation to increase the potential for fairness and equity in dealing with adverse impacts of a project.

The third category, negotiated mitigation and compensation measures, is not an efficient process because it is always site-specific, and rules must be established on a case-specific basis. This quality, however, also provides flexibility, which allows the parties to respond to the particular needs of the project. More importantly, precedents set in negotiated compensation can act as a force for change in accepted practice and, ultimately, in formal policy (including statutes and regulations). For example, the accepted practice with regard to prior compensation is being regularly challenged during site-

specific negotiations and is seen as an emerging issue in regard to compensation in the EA context. For these reasons, the focus of the Council's encouragement of research, demonstration, and extension will be placed to a large extent on the developing nature of negotiated compensation and especially the pressures placed on the parties in negotiating processes.

Contingency planning is another approach to addressing impacts remaining after mitigation responses both on and off the project site. Contingency planning, however, cannot prevent or minimize adverse impacts in the same way that mitigation can.

Another concern that often arises during the negotiation of mitigation and compensation measures is the issue of compensation for perceived risks. If the consideration of compensation results in only a cursory assessment of potential mitigative measures (i.e., if compensation replaces impact prevention or minimization), such a shift in focus will not necessarily be beneficial. In its extreme form, such a narrow focus may result in cheque-book diplomacy, a response which ultimately possesses no long-term advantages. The Council believes that neither contingency plans nor compensation are a substitute for mitigation.

Once mitigation and compensation responses have been suggested by a proponent, the public often comes to believe that final approval of the proposed project has been predetermined. The Council believes that proposed mitigative responses should not obscure the need to balance and give necessary attention to the issues of project need and net impacts in the ultimate assessment. Net impacts, that is, those impacts that cannot be avoided or minimized through mitigative measures, will almost always remain after an initial project review.

Alternatively, net impacts may be lumped together for consideration within a proposed on-site contingency program. Consideration of project need and net impacts in the final decision-making process should be better addressed by decision makers. The Council believes that this important issue is likely to receive attention as the EA process becomes more formalized, and does not view this concern as an issue specifically relating to mitigation and compensation.

Although specific research issues are identified below, the Council's primary interest is to encourage the exploration of new approaches to the development of mitigation and compensation responses and their assessment criteria without seeking to replace or abandon the positive elements of the traditional impact response structure. A valuable goal is to facilitate the meshing of social and ecological considerations into the process of proposing, assessing, and selecting mitigation and compensation measures.

ISSUES FOR MITIGATION AND COMPENSATION RESEARCH

An Open-Ended Approach

All adverse impacts arising from a project are not given equal treatment when mitigation and compensation are considered.

The line between what is viewed as a legitimate impact requiring a response, and what are often referred to as "perceived impacts" is regularly being challenged. This is especially true with respect to the negotiation of compensation for parties affected by a proposed project. Proponents of a project often view the nature of compensation demands as being far too open-ended, while affected parties believe that proposed options are restrictive and do not address the full extent of the impacts created by a project. As a result of this divergence of perception, the legitimacy of the mitigation and compensation negotiation agenda is being seriously challenged.

This challenge is not the result of a growing unreasonableness on the part of parties affected by a project. The problem cannot be simply defined away by labeling certain impacts as "perceived" and others as legitimate. Instead, the basis of the existing negotiation agenda should be re-examined in light of the specific needs of its EA context. The first two categories of mitigation and compensation represented by formal policy (including statutes and regulations) and accepted practice are respectively narrowly interpreted and conservative in nature. The resulting overemphasis on negotiated compensation creates demands that may be frightening to proponents and overwhelming to affected parties.

The Council believes that a re-examination of the uses of mitigation and compensation is needed to reaffirm their legitimacy. An increased focus on the first two categories of mitigation and compensation may facilitate the resolution of many of the issues being negotiated on a site-specific basis, and result in a more explicit expression of a compensation agenda for application to the EA context. Further, the role of negotiated compensation would diminish and, thus, many of the barriers that currently exist between proponents and affected parties would be reduced, allowing for a more effective process.

Levels of Mitigation and Compensation

The development of mitigation and compensation responses requires that the adverse impacts of a project be valued. This provides a basis for comparison with alternatives to projects or methods to undertake a project and, ultimately, allows for an evaluation of the true costs and benefits of the proposed project. Inherent in this process is a determination of the appropriate levels of mitigation and compensation. Current practice has demonstrated that this process is implicitly addressed by proponents but not sufficiently integrated with the project design and planning stages. A need to explicitly set out the criteria applied in determining the appropriate levels of mitigation and compensation is clearly demonstrated through the concerns affected parties express with present practices.

In many cases, the cause-and-effect relationship of impacts is relatively straightforward and, as a result, the need to address the scope of impacts that require a mitigation response is not raised. More and more frequently, however, a causal link is more difficult to find, particularly when a project is located adjacent to another project or projects. This may be the result of a growing sensitivity by the proponent and the public generally to the adverse impacts of projects or the overloading

of certain geographic areas of development. When adverse impacts of a project are cumulative or synergistic in nature, the need to more clearly outline the scope of impacts to be addressed through mitigation and compensation measures is highlighted. Presently, little guidance or rationale exists in the EA framework upon which to base such a decision.

A long history of responding to social impacts through compensation can be found in traditional jurisprudence. Recently, this approach has been applied in the EA process to respond to impacts, such as the determination of the extent of property losses, or the expense required to replace a recreational centre lost as a result of a project. Impact compensation in this sense is grounded in traditional economic theory and is generally well addressed in the EA process. A new form of compensation, though, is demanding increasing attention in the context of EA as less adversarial approaches become more commonplace.

With a view to addressing the inequities of the balance of impacts and benefits flowing from projects, attempts are more frequently made to find volunteer sites. In such an approach, a new form of compensation would transfer more of the benefits to an affected community. This "equity" compensation becomes the basis of negotiations, producing a new spectrum of issues concerning the appropriate levels of compensation.

Economic theory is also regularly applied in the assessment of ecological losses, although the marriage is not a happy one. This is particularly true when the assessment is concerned with mitigation rather than compensation. Nature exists as a series of inter-related ecosystems in which a diversity of species is vital to its continued existence. Thus, the placement of a dollar value on the loss of one component of an ecosystem is irrelevant since that component is considered in isolation. Economic valuation is, in addition, primarily anthropocentric and ethnocentric so that it is the value of the affected resource to man in a particular social context and not to the ecosystem as a whole which is determinative. Little worth is attributed to "annoying" species, although they can play an important role in the survival of an ecosystem. Dollar values are not, as a result, of great assistance when assessing perceived impacts on the natural environment, except perhaps in terms of the loss of an entire ecosystem, such as a wetland. Such an approach is becoming less feasible as the perception of man as an integral element in an ecosystem becomes more broadly accepted.

While there is an identified need for alternative valuation approaches to the assessment of impacts on the natural environment, few initiatives have been developed and tested and fewer given a role in the environmental assessment process.

Assessing the Impacts of Mitigation

All actions cause reactions, however subtle. In this context, mitigative measures, while avoiding or minimizing a perceived impact, may create additional adverse effects. When proposed mitigation measures are assessed closely, it is not uncommon to discover secondary impacts. For instance, in relation to an

increase in truck traffic resulting from the siting of a new hazardous waste facility, a number of potential mitigation measures are possible and each measure will to some extent have a secondary impact. The size of the facility may be reduced, which may shift the problem to another location if disposal needs have been accurately assessed. The Council believes that these secondary impacts must be considered and that preference should be given to proposed mitigation measures that do not transfer unintended impacts to other locations.

The evaluation of impacts created by new developments (post-audit work) should, in the Council's view, include an analysis of whether mitigation efforts effectively addressed the real impacts with a minimum of secondary effects.

Priorities for Research

The three broad areas of research described above do not necessarily encompass all mitigation and compensation issues in the EA context. They do, however, represent those areas where the Council believes efforts should be focused. As the state of the art develops and expands and the statutory framework and accepted practices evolve, these issues can be expected to shift.

A background document prepared on behalf of CEARC clearly demonstrated that of the three issues presented, the issue of assessing the impacts of mitigation should be given less emphasis in the Council's research program. Priority will therefore be given to research intended to respond to the more pressing issues relating to the open-ended approach to the development of negotiated compensation and the development of explicit criteria for the determination of appropriate levels of mitigation and compensation.

IMPLEMENTATION STRATEGY

CEARC has organized its activities into three major areas: research, demonstration, and extension. Work on mitigation and particularly compensation is still within the research and demonstration stages. Review and analysis of mitigation and compensation within the context of on-going approval processes will be considered a demonstration project. For example, two cases, the Lake Winnipeg and Churchill River Diversion and the federal initiative of siting a low-level radioactive waste disposal site, offer opportunities for continuing analysis by the Council.

Further research on questions such as the efficacy and fairness of the negotiation process and consideration of how compensation can best be integrated into the formal EA process could become part of CEARC's social impact assessment research. Compensation would be analysed as a substantive issue within the framework of the broader negotiation process.

The Council's post-audit research work should also include consideration of compensation as a specific item for analysis. Questions such as whether compensation responded to both natural environment and social impacts; whether the impacts which occurred were the same impacts that were predicted

and for which compensation was provided; whether the proper persons were compensated; and whether compensation was adequate, can be answered definitively only after a project has proceeded.

The knowledge acquired from a careful post-construction assessment of projects will lead to the development of more formal criteria for future mitigation and compensation responses.

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