Impact Assessment

ISSN: 0734-9165 (Print) (Online) Journal homepage: http://www.tandfonline.com/loi/tiap19

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To cite this article: Audrey Armour (1990) INTEGRATING IMPACT ASSESSMENT IN THE PLANNING PROCESS: From Rhetoric to Reality, Impact Assessment, 8:1-2, 1-14, DOI: 10.1080/07349165.1990.9726024

To link to this article: http://dx.doi.org/10.1080/07349165.1990.9726024

Published online: 06 Feb 2012.

SECTION 1:

Defining The Problem of Assessment and Integration

INTEGRATING IMPACT ASSESSMENT IN THE PLANNING PROCESS: From Rhetoric to Reality

Audrey Armour *

INTRODUCTION

From the time that environmental issues first forced their way into the public policy arena, one theme has always been dominant – the need to integrate environmental concerns into the planning process so they can be considered at the same time as economic and engineering factors in deciding whether and how to proceed with proposed developments. The continuing importance of this theme was eloquently reinforced in the recent report of the World Commission on Environment and Development (1987), titled "Our Common Future."

The Brundtland Commission, as it came to be known after its chairperson, Madame Gro Harlem Brundtland, Prime Minister of Norway, was established in 1983 by the United Nations General Assembly in recognition of the need to formulate "a global agenda for change." The issues which the Commission addressed – population growth, poverty, resource depletion, pollution and ecological degradation – are not new. They have been on the agenda of nations everywhere for decades. And the challenge which the Commission identified – to more effectively prevent the deleterious impacts of development activities – has also long been recognized. The environmental movement of the sixties brought this challenge to the fore. What the Brundtland Commission achieved, however, was to cast these issues in a new light.

First, it called attention to the intricate inter-relationship between environment, economy and social equity. It pointed out that economic development issues could not be separated from environmental issues and that environmental issues could not be separated from issues of poverty.

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> Many forms of development erode the environmental resources upon which they must be based, and environmental degradation can undermine economic development. Poverty is a major cause and effect of global environmental problems. It is therefore futile to attempt to deal with environmental problems without a broader perspective that encompasses the factors underlying world poverty and international inequity. (The Commission, 1987: 3).

And seco· 1, it pinpointed a missing and crucial element in past strategies for change. That element is the integration of environmental and economic considerations in planning and decision processes. As the Commission (1987: 10) put it:

> "The ability to anticipate and prevent environmental damage requires that the ecological dimensions of policy be considered at the same time as the economic, trade, energy, agricultural and other dimensions. They should be considered on the same agendas and in the same national and international institutions."

Basically, the Commission identified the need for a basic re-orientation of present approaches to economic development and environmental protection so that they become integrated rather than being dealt with as separate concerns. The goals of one must be inter-related with the goals of the other if the sustainability of ecosystems is to be guaranteed and the distribution of the earth's resources is to become more equitable.

Such integration is the raison d'etre of impact assessment. The whole idea of doing impact studies sprang from the recognition of the need to ensure that the full implications of development proposals – ecologic, social and economic – were taken into account before decisions were made to proceed so that wise actions could be taken. In other words, the aim is to ensure that these considerations are an integral part of planned undertakings.

EIA and Planning

Planning is basically a problem-solving process with several discernible stages (Figure 1). In the first stage, a problem or need is perceived (e.g., flooding). Next, the problem is analyzed in more detail (e.g., inadequate flood water storage capacity, encroachment of development in floodplain,

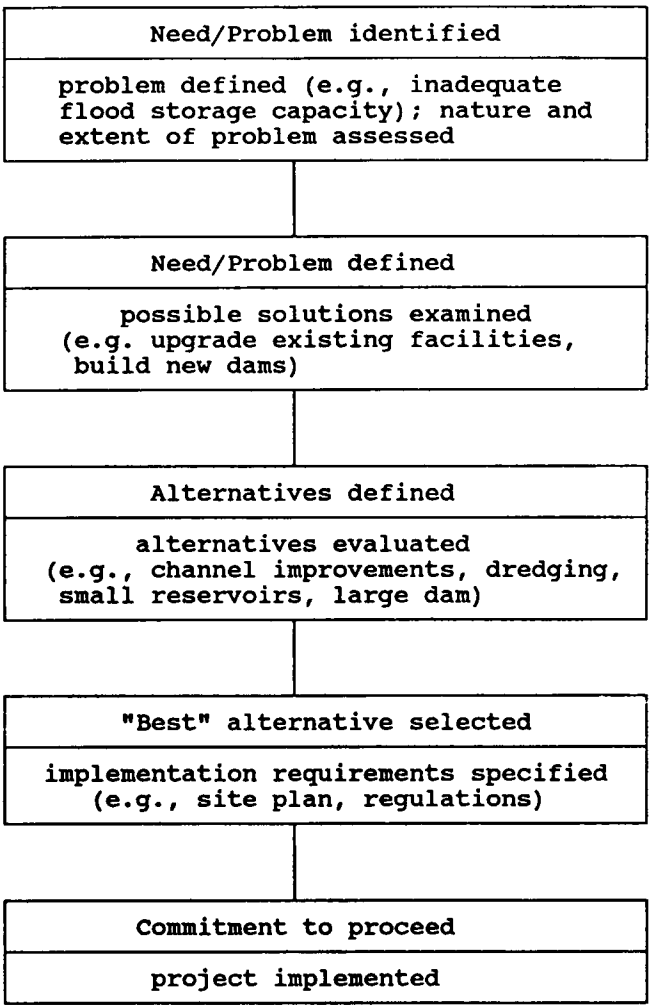
ineffective reservoir operation) and possible solutions identified (e.g., upgrade existing facilities, resettlement of floodplain residents, build new dams, adopt new reservoir operational procedures). Alternative measures are then specified and evaluated (e.g., undertake channel improvements, dredge existing reservoir, construct several small reservoirs, construct one large dam, install flood warning systems, flood proof existing dwellings, do nothing) and the best alternative identified. If there is a commitment to proceed with this alternative, then specific requirements for implementation are developed (e.g., detailed facility and site design plans, land use controls, regulations). If not, parts or all of the planning process may be repeated until an appropriate solution is found.

Environmental impact assessment (EIA) is a process of identifying, and evaluating possible effects of proposed activities so that serious environmental damage can be avoided or minimized. The effectiveness of environmental impact assessment, as a strategy for environmental protection, ultimately depends on its point of intersection with the planning and decisionmaking process. The timing of environmental impact assessment determines its purpose, scope and outcome.

It is generally acknowledged that, if built into the early phases of planning processes, impact assessment offers considerable potential for ensuring that resource management and land use decision are environmentally sound. However, despite nearly two decades of impact assessment experience, it can be said that in most parts of the world progress towards such integration has been slow. It is standard practice for impact assessment to be conducted as a process separate and apart from the planning process, as a means of justifying planning decisions rather than contributing in any meaningful way to them. "Integrating EIA into planning" has generally meant conducting an impact study in the project review stage of the planning process, either when alternative solutions are be evaluated or when detailed implementation requirements are being drawn up. In this approach, EIA is used only as an evaluation method, a counterpart to cost-benefit analysis. As such its full potential as an preventative measure is not being realized.

"Integrating EIA into planning" has another quite different meaning. It means reformulating the planning process such that environmental impact considerations are integral to it from start to finish (Figure 2). EIA does not intersect the planning process at a discrete point in the form of a specific study. Instead, the process of EIA merges with the process of

Figure 1: Planning/Decision Stages



planning and they become one. A separate environmental impact report may be produced, documenting the analyses undertaken and decisions made in arriving at a proposed plan, but this is an exercise in synthesis rather than a one point in time exercise in evaluation.

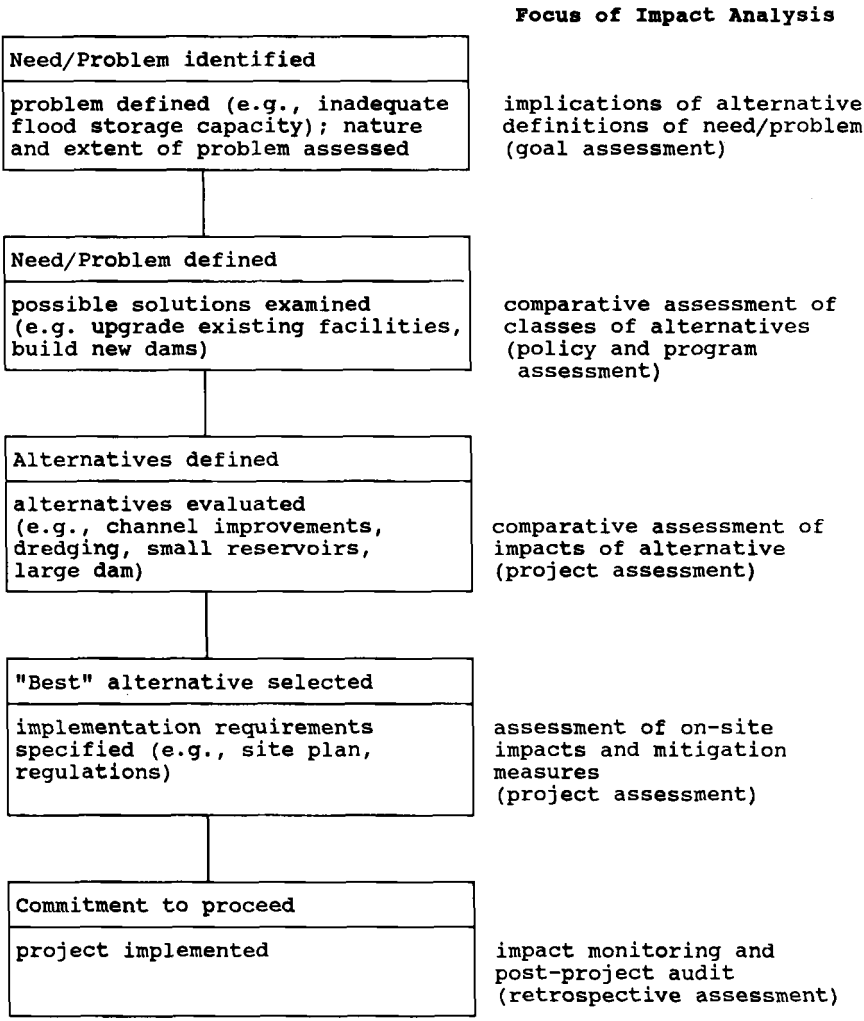
At this point in time, it appears that narrow incrementalism and a focus on short-term utility maximization are still very much the dominant modus operandi of planning and decision processes worldwide. The question is "why?" The question is an important one. The barriers to a more effective integration of EIA and planning must be fully understood if rhetoric is ever to be translated into more of a reality. Unless the roots of our inertia made know and are confronted head on, the full integration of economy, environment and social equity will likely remain an elusive goal. Barriers to Integration

Integration is a concept that has attracted and continues to attract widespread support. In both Canada and the United States, references to the need for more integrated approaches to resource planning and management date back to the turn of the century (Mitchell, 1986). It would be difficult now to find anyone who would argue that the idea lacks merit. Indeed, as the report of the Brundtland Commission attests, the relevance of the concept has grown in significance over time. Yet, as many have observed, effective application of the concept in planning and development processes is uncommon (Muller, 1982; Burdge, et al., 1983; Hammond, et al., 1983; Mitchell, 1986; Lang, 1986; Sadler, 1986). One reason for this rests with the concept itself.

At a common-sense level, the term is a familiar one and easily defined. "To integrate" is "to bring parts together into a whole, to unify." It is when one takes this simple definition and attempts to apply it to planning and decision processes involving environmental and development issues that the true complexity of the concept begins to emerge. In the context of planning and decision making, "to integrate" takes on many different meanings.

First, there is the need for technical or disciplinary integration, that is, the bringing together of disparate ecologic, social and economic factors into a unified analytic framework that reflects a holistic perspective on the issues being addressed. In addition to budgetary constraints, the main barriers to such integration include "disciplinary chauvinism" (Burdge, et al., 1983), data incompatibility, and the lack of integrative evaluation methods. As Zube (1982) has noted, the lack of an integrated framework

Figure 2: EIA and Planning/Decision Stages



for linking the sciences together has been a major barrier to interdisciplinary research. Attempts to aggregate the results of technical studies into a unified framework or index that provides an assessment of the "overall impact" and makes explicit the trade-offs among competing goals and objectives often have the appearance of being arbitrary and highly subjective (Andrews, 1978; Bisset, 1978; Elliott, 1981; Hyman, et al., 1988).

Second, there is the need for consultative integration or the bringing together of competing interests and perspectives into a unifying sociopolitical process. Clearly, an understanding of the different attitudes, values and perceptions of the people involved in or affected by development decisions is an essential prerequisite to effective integrated planning. However, such consultation presents two difficult problems. The first is ensuring that "meaningful" consultation occurs. Who should be consulted and when? And what are the best methods to facilitate such consultation? The second comes in factoring such information into planning and decision processes. How much weight should be given to alternate viewpoints and the values that underlie them? How should conflicts be resolved? And who should decide these matters? This second problem is perhaps more problematic than the first, owing to its basic political implications. As Mazmanian (1976) pointed out, the conflicts that often occur in public consultation processes generally are not the result of simple misunderstandings that can be corrected through the provision of further information and dialogue. Rather, they often reflect basic disagreements regarding the perceived merits of economic development versus environmental conservation. When different interests are "brought together," such disagreements can be expected to surface and pressure created for their resolution. It is for this reason that many jurisdictions shy away from consultative integration.

Third, there is the need for organizational integration or the bringing together of private and public implementing agencies into a unified management approach. "Integration," from a public administrator's perspective, can be defined as "a philosophy of management expressed as a process in government [that] requires a high degree of coordination, involving many people from all levels" (Resource Integration Committee, 1983: 4). A central theme that emerged from the Brundtland Commission's report is the need for collaborative, coordinated action directed toward the achievement of common goals. The task of organizational integration, however, is far from an easy one. Much has been written about the

problems inherent in promoting "shared action" in a world characterized by ever-increasing specialization, multiplicity of agencies, and fragmented jurisdictions (Morley, 1896; Paul, 1982; Trist, 1976).

Finally, there is the need to integrate all three tasks presented above into an overall unified planning and decision process. This is a tall order, made more onerous by the fact that in each case the same thing can be said – what the task means in specific operational terms is still very much a matter of debate. Why integration is important and what it should involve can be easily articulated; what is more difficult to prescribe is how to actually make it happen.

Given the above, the barriers to integration seem to be insurmountable. Pessimists would say that if anything has been learned over the past twenty years since environmental impact assessment was first institutionalized, it is that "plus ca change, plus c'est la meme chose" or, the more things change, the more they stay the same. Any they would have a point. The environmental record suggests that, when it comes to changing our way of doing business, there is an intractable inertia that can frustrate the best of intentions. Clearly, the barriers to the kind of integration required to reconcile environment and development issues run deep. Integration does not come easy in a world characterized more by competition than cooperation, where mastery of means has not been coupled with a clear sense of ends, and where a shared environmental ethic or consensus on principles of social justice are still woefully lacking.

It would not be wise, however, to assume that effective integration of EIA and planning is a lost cause. If anything, it should be viewed as the imperative of the nineties. The Brundtland Commission has made clear that there is too much at stake to give in to complacency and settle for the status quo in our approaches to environmental management. The position that should be taken is that it is not so much that effective integration has not occurred as it has not occurred yet. After all, legislative requirements for impact assessment came in the absence of proven methodological tools and institutional mechanisms to support practice. The impact assessment field is one where many frontiers had to be pushed back at the same time. And though progress has been slow, there is no denying that some advancements towards achieving the goal of integration have been made, as many papers in this publication indicate.

It is in this regard that those involved in the impact assessment field have something important to offer in response to the challenges identified

by the Brundtland Commission. This year marks two decades of international experience with environmental impact assessment. The many difficulties involved in integrating impact assessment into planning and decision processes are well known to impact assessment professionals. But so are some ways of overcoming them. This publication, the product of the VIII Annual Meeting of the International Association for Impact Assessment held in Brisbane, Australia 1988, reflects the belief that now is a good time to begin taking stock, to assess our collective accomplishments, failures and potential. It is through the consolidation of what has been learned, both positive and negative, about integrating impact assessment in the planning process that the keys to overcoming the barriers to effective integration will be found.

Overview of Papers

The twenty three papers that follow represent one contribution to that task. Of the two remaining papers in Section 1, N. Htun provides a more detailed discussion of how EIA can be used to facilitate the development of policies for sustainable development, and R. Adiwoso-Suprapto discussed the role of impact assessment in addressing social goals and directing development towards more equitable distribution of benefits. The ideas presented in these two papers are further elaborated in Section 2 which offers descriptions of conceptual frameworks and administrative structures to facilitate integration, especially in developing countries. R. Fuggle discusses "integrated environmental management," a procedure for environmental evaluation based on a recognition of constraints to EIA in developing countries. J. Kozlowski addresses the integration of ecological content in planning processes and describes a method called Ultimate Environmental Threshold (UET) which holds promise for reforming planning practice. N. Yap explores the alternate roles that EIA can play in less developed countries and identifies requirements for improving practice. R. Burdge focuses on role of social impact assessment in planning. In addition, Section 2 contains five case studies of current practice. J. Dargavel and J. Dunster each present an analysis of efforts to achieve integration in forestry planning, one based in Australia and the other in the Province of Ontario, Canada. J. Higham and J.C. Day present a case study of off-shore oil exploration in Western Canada. H. Wang and J. Ware describe China's experience with environmental quality evaluation and EIA. And D. Williams discusses the experience of the U. S. Bureau of Land Management in integrating impact assessment into its resource management planning process.

Section 3 turns to an exploration of the socio-political aspects of integrated planning. R. Rickson, T. Hundloe and J. Western describe the conflicts that were associated with the management of the tropical rainforests in Queensland, Australia and the implications this conflict situation had for the EIA that were conducted, in particular the data collection activities that were involved. J. Formby builds on this theme in an exploration of the politics of EIA. R. Hill, F. Archer and L. Webley also provide an analysis of resource conflict and EIA, this time in relation to land tenure in the reserves of Namaqualand, South Africa. H. Hsiao offers a broader socio-political analysis of environmental issues in Taiwan. The remaining four papers focus more specifically on the process of planning and factors influencing efforts to achieve integration. S. Huang describes the role of land suitability analyses as a means for integrating impact assessment with development planning. K. Lyon examines the way in which public policy makers view impact assessment and the factors which influence their perspectives. G. McDonald and A. Brown advocate a move away from formal-explicit procedures for impact assessment and the adoption of more flexible arrangements if impact assessment is to become a more routine part of planning. Flexibility is also advocated by N. Tywoniuk who argues that, in some cases, it may not be advisable to integrate planning and impact assessment into one function.

Section 4 moves the discussion of socio-political factors to the more specific matter of the law. M. Jeffery provides a comparative analysis of environmental assessment processes in Canada and Australia. H. Chuen describes the legal and institutional arrangements for impact assessment in Malaysia. M. Bardecki addresses the issue of cumulative impacts, in particular the management and regulatory options available to deal with them. He suggests that the consideration of cumulative impacts is not well suited to current legal and administrative mechanisms for EIA and that they would be better addressed in the context of regulatory powers.

The issue ends, appropriately, with a discussion by R. Rickson, R. Burdge and A. Armour of the future prospects for integrating impact assessment into the planning process. Their outlook is a hopeful one. It stems not from simply a wishful desire for such integration to occur. Rather, it stems from a belief in the commitment of EIA and planning professionals, such as those who have contributed to this publication, to make it happen.

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