Technical Report

The Assessment and Review of Social Impacts

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Federal Environmental Assessment Review Office

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ABSTRACT

This study begins with a discussion of where social impact considerations can enter the Environmental Assessment and Review Process: first with an overview of the entire Environmental Assessment Review Process; then, with a comment on eight specific projects. (Chapter 2).

Then, it reviews a fundamental question: is social impact assessment a discrete mature discipline (Chapter 3). SIA, as it is now practiced, has a four-part framework (profiling, projecting, assessing and evaluation). The study looks at various methodologies using this framework (Chapter 4).

There are two diverging viewpoints on the purpose of impact assessment: the technical perspective which emphasizes impact assessment as a tool for making more rational decisions; and the poiicital perspective which stresses its use to diffuse authority in assessments, reviews, decisions and follow-ups (Chapter 5).

Assessment and Review of Social Impacts contains a selected bibliography and a list of the names and addressed of individuals contacted during the study.

The study was carried out under contract to the Federal Environmental Assessment Review Office and is directed specifically to the Federal Environmental Assessment and Review Process.

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RESUME

Dans cette etude, on commence par analyser les critères en vertu desquels on peut intégrer les evaluations des impacts sociaux de projets d'aménagement au Processus d'evaluation et d'examen en matière d'environnement; on donne d'abord un aperçu de ce processus, puis un commentaire sur huit projets particuliers (chapitre 2).

Ensuite, on examine une question fondamentale: l'évaluation des impacts sociaux constitue-t-elle une discipline développée et distincte? (chapitre 3). Actuellement, cette activité se realise en quatre étapes: profilage, prevision, mesure et evaluation. A l'aide de ces étapes on y étudie diverses méthodes (chapitre 4).

Il y a deux points de vue divergents quant à l'objet de l'évaluation des impacts sociaux. Il y a d'abord l'optique technique selon laquelle cette activité n'est qu'un outil permettant de prendre des décisions vraiment rationnelles; et il y a l'optique politique selon laquelle cette activité sert à contrôler les évaluations, les examens, les décisions et les mesures subséquentes (chapitre 5).

La publication énumère un certain nombre d'ouvrages choisis et donne la liste des personnes (noms et adresses) qui ont été contactées au cours de l'étude.

Cette etude a été effectuée pour le compte du Bureau fédéral d'examen des evaluations environnementales et se rapporte particulierement au Processus federal d'evaluation et d'examen en matière d'environnement.

Note

This report was prepared under contract to the Federal Environmental Assessment Review Office by Lang - Armour Associates. The views expressed are those of the authors.

A French-Language copy will be prwided upon request to:

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The two authors are principals in Lang Armour Associates.

This chapter outlines briefly the problem which this report addresses, the conduct of the study, and the way the document is organized.

Focus and Conduct of the Study

Over six years ago the federal government established the Environmental Assessment and Review Process (EARP) as a means of determining, in advance of making commitments or irrevocable decisions, the potential environmental impacts of federal projects and programs.

EARP was the Canadian counterpart of the U.S. National Environmental Policy Act (NEPA) of 1970. For the first time federal agencies in that country were required to take into account and be accountable for the impact of their actions on the human (including natural) environment. The Government of Canada, however, chose the administrative route rather than legislation. The Cabinet directed all federal departments and agencies (proprietary crown corporations and regulatory agencies excepted): to carry out environmental assessments for projects which they initiated or funded and which might have adverse effects on the environment; to submit projects with potentially significant environmental impacts to the Department of the Environment for review by an Environmental Assessment Panel: and to use the results of these assessments in their planning, decision-making and implementation processes.

Environmental impact assessment signaled a significant departure for public policy. Where the direction would lead in the Canadian context, however, was as uncertain as the means to pursue it. NEPA had set the pace and provided valuable experience but the full implications of requiring such impact assessments and reviews

Chapter 1
Introduction

was far from understood. An observer of the U.S. scene describes the ambiguity which surrounded NEPA in its early stages:

> Some change was clearly demanded . . .The direction of the desired change was also clear . . .The magnitude of change required in each decision, however, was not clear, nor were the indicators for measuring it specified. What was "appropriate" consideration of "environmental amenaties and values"? What was a "major federal action significantly affecting the quality of the human environment"? Did it include policies, permits, grants and rules as well as projects? Which of these were "major"? Which of their effects were "significant", and by what measures? What was the operational'meaning of* the "human environment"? And what were "appropriate" alternatives?[1]

Administrators assigned the responsibility of operationalizing EARP confronted similar questions whose answers were not readily apparent. Rules and procedures, therefore, had to be tried and adaptedas experience was gained. EARP as a result has evolved over its six-year life. For example, the Minister of the Environment may now appoint Panel members from outside the public service: proponents, on the other hand, are no longer represented on Panels. Federal agencies are now developing processes to involve the public earlier in the planning stages of projects potentially subject to environmental assessment, rather than relying for feedback on EARP hearings. Monitoring of projects approved through EARP is now being tested as a possible management strategy for use when potential impacts involve high uncertainty and risk. These examples illustrate a process still on the early, steep, upward slope of the learning curve that accompanies innovations.

A new issue has arisen, with potential to create further and significant change in EARP. It centres on how to handle the social impacts of proposed projects referred for environmental assessment and review. Social impacts, sometimes called socioeconomic or community impacts, are proving to be particularly troublesome. While the demand to acknowledge and deal with

social impacts is steadily increasing, to the point where they have been *responsible for halting projects, they present formidable problems of definition, measurement and mitigation. Those writing guidelines for environmental impact studies, proponent agencies submitting projects for review, the consultants they employ, participants in public hearings and concerned citizens all appear to have considerable difficulty sorting out which variables are relevant in describing a proposed project in its social setting and what questions are legitimate in evaluating the project's social effects. The result can be a substantial expenditure of time, effort, money and goodwill that in retrospect seems wasted. The credibility of EARP, and environmental assessment generally, is being affected. It will suffer if suitable approaches to social impact problems are not soon devised and put in place.

This study was the outcome of the authors' direct and indirect experience with these issues over the past eight years, including membership (Lang) on two Environmental Assessment Panels where social impacts were prominent. Objectives of the study were:

1. To clarify the nature of "social" and "community impacts in relation to the kinds of major federal projects that have undergone or are likely to be subjected to EARP (refineries, pulp mills, pipelines, hydroelectric projects, highways, dams, airports, northern resource development, etc.). Clarification was seen to involve: a. examining alternative concepts of social/community impact found in the literature on the theory and practice of social impact assessment: and b. exploring reasons why social impacts tend to be under-emphasized in processes of environmental assessment and review.

2. To identify procedural options for dealing with social/community impacts in EARP.

3. To document examples of recent experience, especially in Canada and the United States, considered particularly relevant to resolving social/community impact problems.

The intent was to benchmark current perspectives on and approaches to social impact assessment and to set out and evaluate alternatives that are or could be available to the Federal Environmental Assessment Review Office should itchooseto pursue this issue. It was clearly understood, however, that the study was not intended to spell out in detail a preferred approach or to recommend specific changes to EARP. Such a task would have involved considerably more consultation, time and budgeted funds than this modest investigation provided. [2]

The study was conducted by Audrey Armour and Reg Lang over the one-year period April 1979 to March 1980. It involved:

- A thorough review of the published literature of the social impact assessment field (books, articles, agency reports, memoranda, etc.) and related material in the field of environmental impact assessment.[3] Selected references are listed in Appendix C.

- A general examination, followed by in-depth sampling ofr terms of reference or guidelines for all EARP exercises undertaken or underway; the environmental impact studies that resulted! transcripts of the public hearings: and Panel reports. The documents are cited in footnotes throughout the report.

- Interviews with a wide range of agencies and individuals in Canada and the United States who have had close involvement with EARP or with other environmental/social impact assessment processes. Appendix B lists the contacts made

in Ottawa (13 individuals from five departments and agencies), Washington DC (15 representatives of nine federal departments and agencies), California (interviews with state officials and others during another study there in Spring 1979), Oregon (interviews with researchers, academics and practitioners), British Columbia (including a meeting with seven individuals who had been members of EARP Panels or consultants or researchers in the social impact field), Alberta and Manitoba (interviews conducted with provincial officials on the return trip from California) and Ontario (interviews with provincial officials).

@Preparation of a final report.

Organizat ion of the Report

Five additional chapters comprise the report.

Chapter 2 provides a factualbackground for the study by examining the EARP experience with social impacts. The Process is first analyzed to pinpoint where social impact considerations can enter. Next is a presentation of the results of a closer investigation of eight selected EARP projects. Specific problems related to social impact are then outlined.

Chapter 3 turns to an examination of social impact assessment as it is emerging in theory and practice. It considers the extent to which SIA is a discrete, mature field and where the field is at. It explores several of the conceptual frameworks that have been advanced. It looks at the positions of the advocates and critics of SIA, and at alternate strategies.

Chapter 4 examines the conduct of social impact assessment specifically. The four-part methodological framework that guides SIA - profiling, projecting, assessing, evaluating - is detailed, each part in turn, with examples of the methods commonly used. The framework is then re-examined critically; substantial problems exist in each stage, particularly in impact prediction and evaluation. Three alternatives to SIA are summarizedt the "issue report" used by the U.S. Department of the Interior! social impact management, drawn from Ontario Hydro's and other experience; and environmental mediation, a service offered by the University of Washington and various other organizations in the United States.

Chapter 5 gives attention to a basic divergence of viewpoint on the nature of impact assessment. The technical perspective emphasizes social impact analysis as input to rational decision-making while the political perspective emphasizes the wider process of assessment, review, decision and follow-up. The possiblity of a compromise approach is considered.

Chapter 6 provides a summary of the previous four Chapters and discusses briefly some of the implications these findings have for EARP.

Appendices outline the Environmental Assessment and Review Process, list contacts made during the study, and set out selected references on social impact assessment together with addresses of all information sources used during the study.

The report is aimed not only at fulfilling the study's terms of reference but also at stimulating discussion and further development in the social impact assessment field, especially in Canada and in relation to EARP and its various counterparts in the provinces. The authors welcome comments and feedback as well as opportunities to open communication with others

interested in theory and practice in this field. Please contact:

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Chapter 2

The EARP Experience

Social impact assessment, on the surface, may seem to be simply a counterpart of environmental impact assessment. At a deeper level, however, it may be that EIA created an outlet for social concerns that have been unfolding for some time, concerns such as:

- The human implications of resource depletion, including the limits to growth argument, and environmental degradation (natural/physical environment problems traced back far enough have social and human impacts).

- The social consequences of rapid technological change, such as alienation, well documented by writers from Emile Durkheim and Max Weber to Jacques Illuls and Alvin Toffler.

- A new "neighbourhood conservatism'* (the not-in-my-backyard' syndrome); as pepole become more aware that society's bads and goods are unequally distributed, they are less willing to accept sacrifices for the sake of the common good.

- A perceived unresponsiveness or indifference, by those holding the power in society (especially big bureaucracies), to the needs and values of individuals.

When a unique public forum is created for discussing deeply rooted social problems it is not surprising that they should squeeze onto the public agenda. Environmental impact assessment itself was not designed to air social issues, despite some of the wording of the U.S. National Environmental Policy Act proclaimed on the first of January, 1970. The Act's preamble, for example, stated that it aimed at bringing about "productive and enjoyable harmony between man and his environment? Section 102 (C) required an environmental impact assessment to be prepared for "every recommendation or report or proposal for legislation and other major federal actions significantly affecting the quality of the human environment". And Section 107 directed federal agencies to "utilize a systemic,interdisciplinary approach which

will insure the integrated use of the natural and social sciences" (emphases added in each quote). But public concerns of the day were focused primarily on the effects of human activities on the natural environment – oil on beaches, phosphate detergents in lakes and rivers, smog in cities – and some of the rebound effects on People (health for instance). The NEPA mandate was not interpreted to include the effects of federal actions directly on human beings, their communities and institutions.

Nonetheless, social impacts found their way into environmental impact statements and review processes. The natural/social impact distinction proved difficult to make for projects in rural and resource areas where resident lifestyles were closely tied to the natural setting, and in urban areas where problems of air, land and water pollution are mixed up with and often dominated by complex people issues. The public, increasingly involved in environmental assessments, did not experience "the human environment" in separate social and natural categories. And the courts, responsible for much of the progress made under NEPA, interpreted its provisions in ways that gradually opened the door to a wider set of impacts.' Accordingly, NEPA guidelines were revised in 1978 to define "human environment" more comprehensively to include the natural and physical environment and the relationship of people with that environment. Effects to be assessed were expanded to encompass social, health, historical, economicand aesthetic as well as ecological. The door was only partly opened, however. Socioeconomic effects by themselves do not necessitate an impact statement under NEPA. They are relevant only when interrelated with natural or physical environmental effects. [2]

The push for social impact assessment also came from another direction. Social scientists such as C. P. Wolf[3] were arguing that theirtraditional concern-"analyzing the conditions, causes and consequences of social phenomena and social life"[4] – could and should find expresssion through a process parallel to or part

of environmental impact assessment. Beginning early in the Seventies the social impact assessment field began to grow quickly though haphazardly, in theory and in practice.

With that growth has come change. Five years ago the assessment of social impacts, if difficult and complex in specific cases, seemed fairly straightforward in terms of the general method. The approach being applied to the assessment of natural/physical environmental impacts appeared to be directly transferable: only the subject differed. Debate centred more on whether social impacts should be assessed (and if so, concurrently with or separate from environmental impacts) than how this was to be done. To-day, "whether" questions, though still discussed, are less of an issue. Social considerations are coming to be regarded as unavoidable in many EIA exercises, sometimes because those conducting the studies see it that way but more often because exposure of a proposed project to public scrutiny raises questions about its effects on people. More significantly, social impacts are being recognized as potentially the critical factors in determining whether a project proceeds or not. Their assessment then becomes a matter of practical necessity for proponent agencies and those responsible for impact assessment processes,

This widening of assessed impacts has obvious positive features, for those affected by actions and for those effecting them (e.g., more credible projects, more likely to be accepted and easier to implement). At the same time it raises some serious problems, both philosophical and methodological. A fundamental aim of environmental impact assessment was to expose previously ignored consequences of human activities on the environment and to bring about a new order of social responsibility for these effects, by both public and private interests. While this is difficult enough to achieve with environmental impacts, it raises extremely complex and formidable questions with the less easily defined social impacts. Furthermore, emergence of the new field

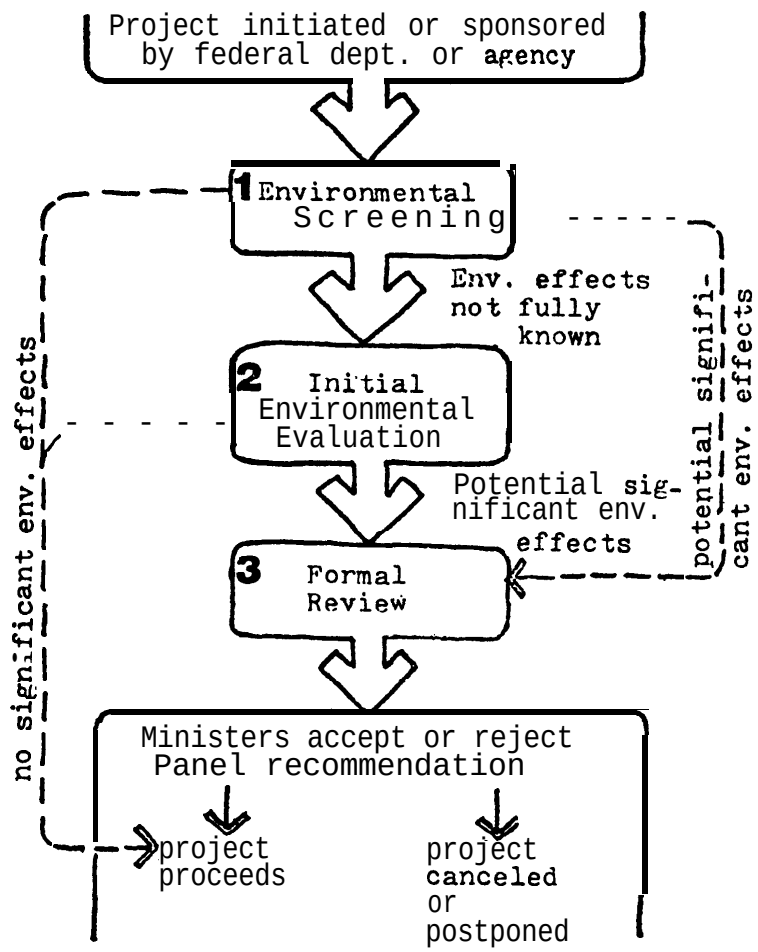
has produced differing perspectives on its scope (what "social impact" ought to encompass and where the cut-off should be made), how social impacts should be assessed and by whom, how social impact studies should be evaluated, and what should be done with the results. Sharp differences exist between those who want SIA to become more and more rigorous and scientific, able to compete successfully with the natural sciences and economics at the decision table, and those who would de-emphasize the technical aspects in favour of a participative and essentially political process enriched by social impact assessment. Because the new field (like all new fields) displays this kind of diversity and experimentation, those viewing it from outside may be inclined to doubt whether there is a field there at all, whether it deserves serious consideration, and whether it differs enough to justify explicit inclusion of social impacts in environmental assessment. and review processes.

Canada's Environmental Assessment and Review Process has experienced and will continue to encounter the foregoing influences of social impacts and their assessment. This chapter begins by reviewing how social impacts can now enter EARP (the Process itself is described in Appendix A). A presentation follows on the extent to which social impacts were issues in eight selected EARP projects. That allows some related problems to be identified – problems that are likely to be increasingly common and troublesome for Environmental Assessment Panels and the Federal Environmental Assessment Review Office.

Social Impacts in EARP

The Federal Environmental Assessment and Review Process (EARP) consists of three basic stages shown in Figure 1: screening, initial environmental evaluation and formal review.[5] Social impact considerations can enter in each stage.

Figure 1
Federal Environmental Assessment and Review Process

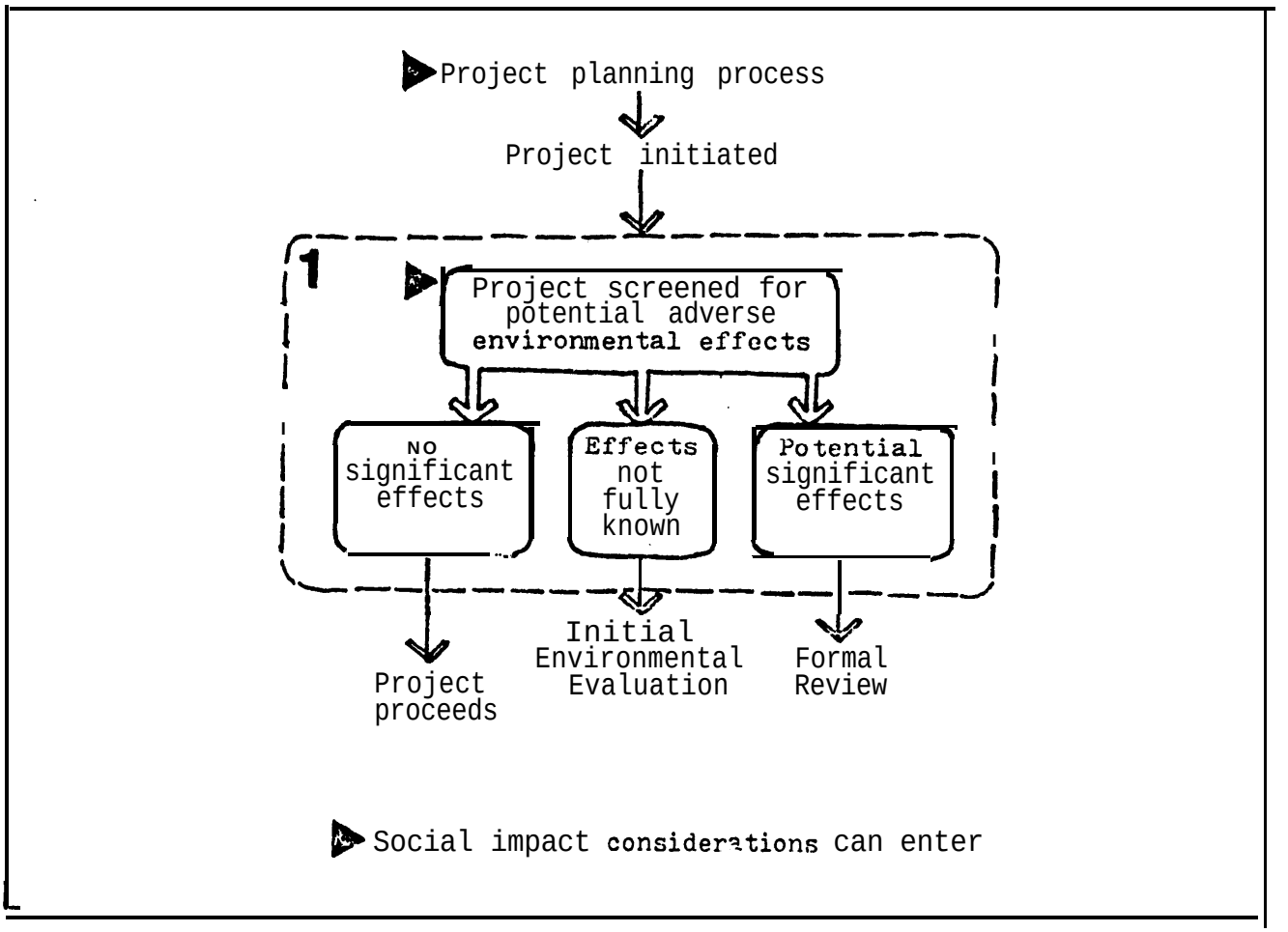


Source: Federal Environmental Assessment Review Office, Revised Guide to the Environmental Assessment and Review Process (Ottawa; FEARO, May 1979)

Screening[6]

As early as possible in the planning of a project, an initiating federal department or agency is supposed to screen the project for potential adverse environmental effects. The screening procedure has four possible outcomes. (Figure 2). If no adverse effects are identified, projec-t planning can proceed without further environmental review other than compliance with environmental policies and standards. If adverse effects are identified but are not considered significant - "judgments on the significance of environmental effects are based on scientific/technical factors and/or the potential to create concern and controversy in the public/professional community"[7]- again no further reference to EARP is required. If the nature and scope of potential adverse environmental effects are not fully. known, a more detailed assessment is required. The initiator proceeds to the next stage, preparation of an Initial Environmental Evaluation. Finally, if the initiator recognizes that significant environmental effects are likely, the Chairman of the Federal Environmental Assessment Review Office (FEARO), the focal yoint for EARP and reporting to the Minister of the Environment, is requested to establish an Environmental Assessment Panel to review the project. Throughout, a "self-assessment approach" is followed. Initiating departments and agencies themselves (perhaps with some pressure from environmental or other regulatory agencies or from outside government) determine whether their projects will have adverse environmental effects; they decide whether these effects are significant or not; they have to requestfull-scale environmental review: and they are responsible for implementing any mitigative measures identified.

Figure 2
Environmental Screening in EARP



FEARC guidelines for screening of projects make reference to four kinds of environmental effects: physical-chemical, ecological, aesthetic and social (in that order). Initiators are cautioned:

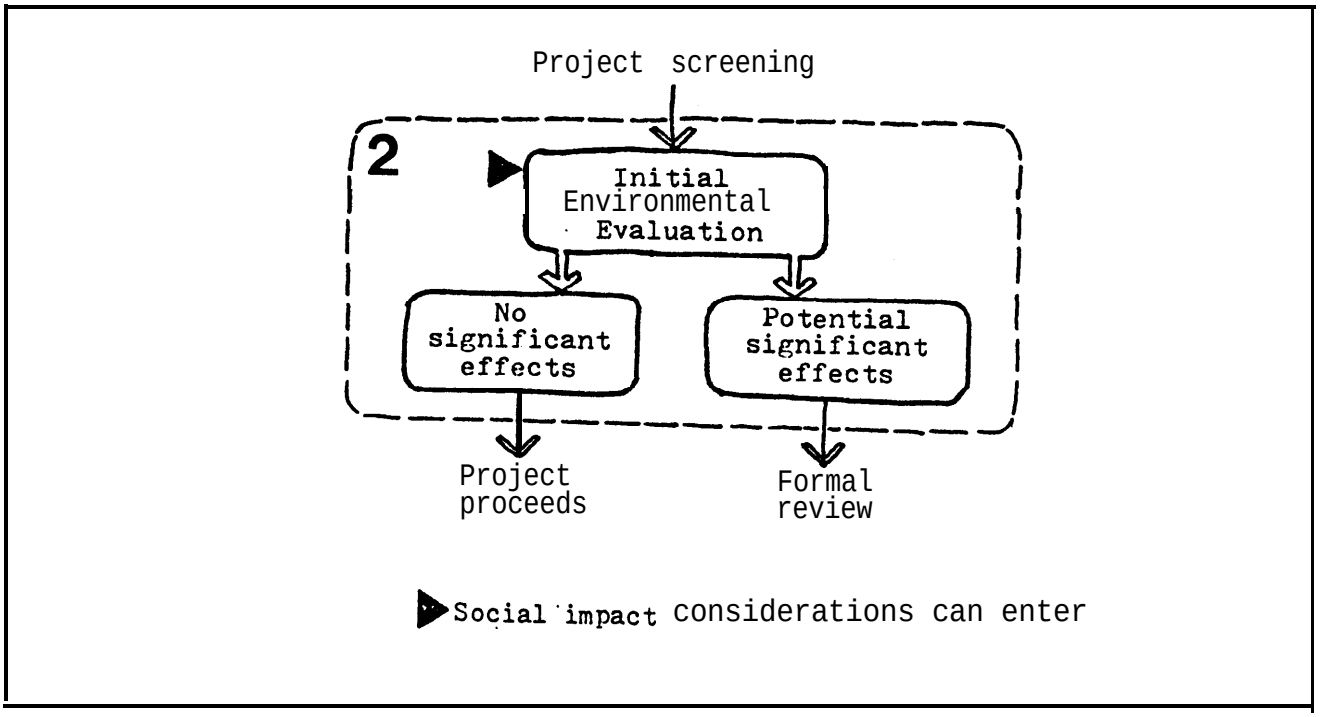
> It is difficult to separate social and environmental effects for in many situations environmental changes will have a social impact. Initiating departments should therefore consult with experts in the social field to identify areas of potential social impact... The screener must recognize that social effects which result in an environmental impact must also be assessed.8

The guidelines, therefore, make it clear that social impacts are a valid concern and a necessary factor to consider in the Environmental Assessment and Review Process. In the matrices suggested for use in screening, "socio-economic effects" (grouped together) encompass seven categories: demography (population change); economic and manpower; regional transportation; housing and community infrastructure (includes land use); health, education and social services; local government costs and benefits: and lifestyle and quality of life. The last category covers "impacts on economic activity in and around the development area which may change the lifestyle and associated socio-economic activity of the community", "changes in quality of residential, cultural and spiritual community patterns and lifestyles", "change in recreational opportunities", and "effects on native people who want to continue more traditional lifestyle*'.[9] This par-t of the guidelines, however, has no easily discerned underlying structure and it is far less detailed than the sections on physical and ecological impacts. Similarly, descriptions of the criteria recommended for use in making screening decisions – magnitude, prevalence, duration and frequency, risks, importance and mitigation - make only passing reference to social considerations.

Initial Environmental Evaluation

An IEE (see Figure 3) involves a detailed examination of the current environment and resource use, potential impacts of the project, measures to prevent or mitigate anticipated impacts, and the significance of impacts that would remain after prevention and mitigation. It also includes alternative ways of accomplishing the project and identification of the preferred alternative(s). If the IEE reveals that the residual environmental consequences of the project will not be significant, the initiator (or assoc-

Figure 3
Initial Environmental Evaluation in EARP



iated proponent agency upon whose behalf the initiator is acting) may proceed without further reference to EARP. But, if the project is shown to have potentially significant environmental consequences (as decided by the initiator), it is then referred the Minister of the Environment for a formal review under EARP.

No general guidelines for the conduct of IEEs have been published. The initiator determines what the Evaluation will contain, including the approach and degree of emphasis given to social impacts. Initiators and proponents, however, will have one eye on the possibility of formal reviews eventually being required. Since a well-done IEE can substitute for an Environmental Impact Statement later on, it is in the initiator's interest to conduct an IEE carefully (and that includes attention to social impacts) if the project appears to have potential to create significant impacts.

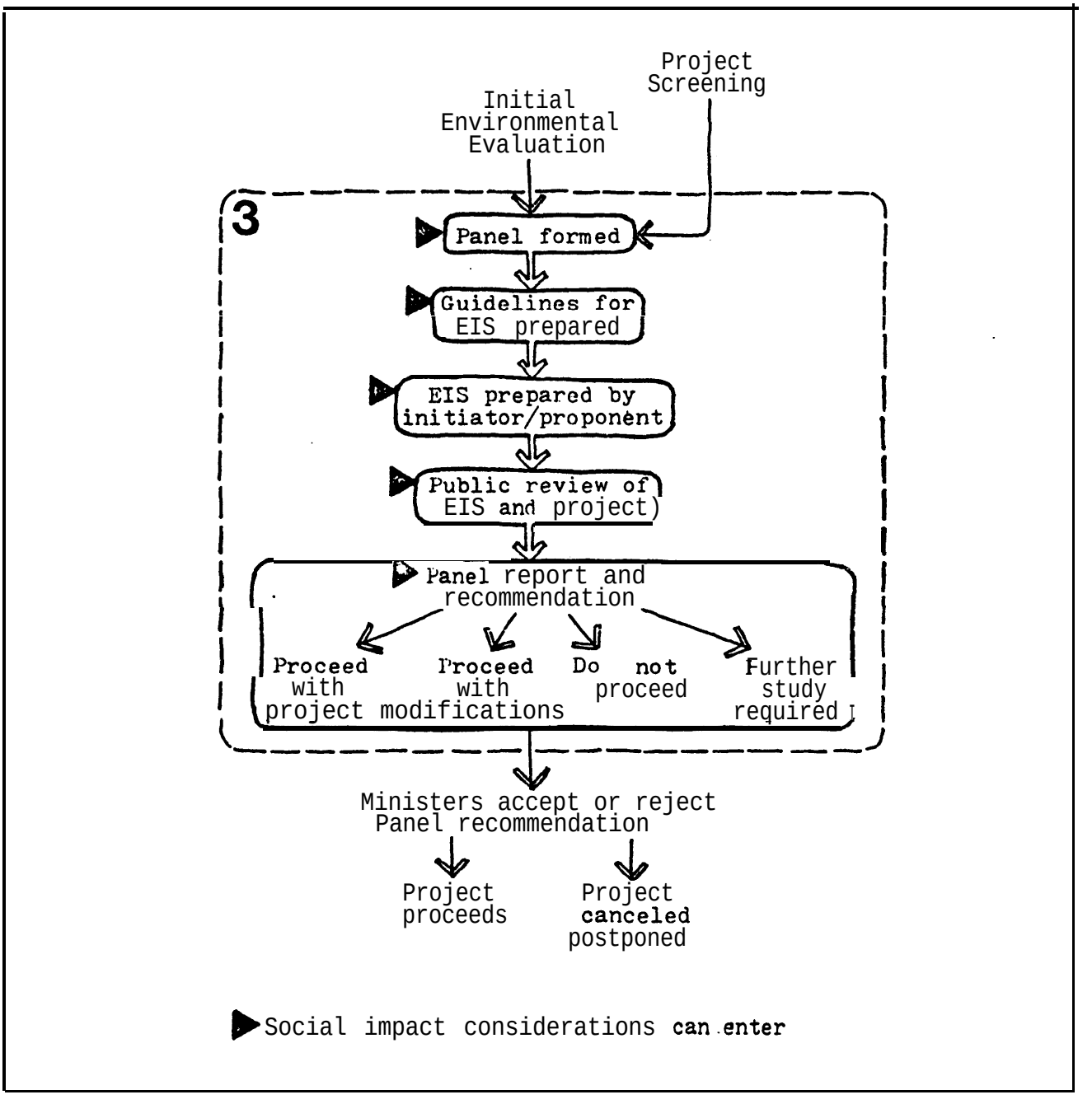
Formal Review

When a project is referred to the Minister Of the Environment for review, as a result of screening or initial environmental evaluation, the self-assessment approach no longer applies. Review of the project is carried out by an Environmental Assessment Panel appointed by the Executive Chairman of FEAR0 in consultation with the initiator/proponent and appropriate provincial and other agencies. A Panel is "a group of experts, usually fonr to six, selected on the basis of their knowledge and expertise of the project under review.** [10] Members may be federal, provincial or territorial public servants as well as persons from outside these governments (at one time, the initiator/ proponent was also represented on the Fanel). FEARC provides the Fanel Chairman, who is also a Panel member, and Secretary. Figure 4 illustrates the remainder of the process.

Assisted by FEARO staff and others the Panel prepares and issues specific guidelines for the preparation, by the proponent, of an Environmental Impact Statement (EIS) on the project. The guidelines are "to ensure that the EIS contains the information that the reviewers and the public need to evaluate the proposal% environmental and related social implications". [11] Guidelines may be subject to public comment before being finalized. After the EIS is completed the Panel arranges for its review by various government agencies and the public whose comments on a proposal are seen to play "an important role in determining its environmental significance". [12] Public meetings or hearings are usually held, in the vicinity of the project, to provide opportunities for individuals and groups to express their views and to hear the views of others.

The Fanel then prepares its report which goes directly to the Minister of Environment. According to the FEARC guide on EARP, a Fanel report normally describes the project and its history,

Figure 4
Formal Review in EARP



the receiving area and "the environmental and related social impacts of the project as determined'from the reviews and public meetings? It-then sets out the Panel's conclusions and recommendations concerning whether the project is environmentally acceptable and if so, under what conditions. The final decision on the project is made by the Minister of the Environment together with the Minister to whom the proponent department or, agency reports or, in cases of disagreement, by the Federal Cabinet.

Unlike its U.S. counterpart,[13] FEARO does not publish statistics on the number of federal projects that are subjected to environmental screening or on how many initial environmental evaluations are prepared and what the outcomes are. The Environmental Assessment and Review Process apparently "is now done routinely for thousands of projects each year".[14] During the six years that EARP has been in existence, 30 federal projects have been deemed to have environmental effects potentially significant enough to warrant formal review by an Envoronmental Assessment Panel.[15] Table 1 lists the 12 reviews that 'nave been completed while Table 2 outlines the 16 that are underway (not included are two that have been suspended).

In most of these cases social impacts were at issue. The next section examineseight of the completed reviews more closely to determine specifically the nature of the social concerns that arose and how they were dealt with by the Panels.

Eight EARP Projects Examined

Eight completed Panel projects, providing reasonable variety in location and type, were selected for closer examination: 1. the Point Lepreau nuclear power plant in Kew Brunswick; 2. the Wreck Cove hydroelectric project in Nova Scotia; 3. Eldorado Nuclear

Table 1
Federal Projects Reviewed Under EARP, 1974-1979

Project	Initiating Dept./Agency	Referred/ Completed
1. Point Lepreau Nuclear Power Generating Station, N.B.	Energy, Mines and Resources	1974/1975
2. Wreck Cove Hydro Electric Power, N.S.	Indian and Northern Affairs	1975/1976
3. Alaska Highway Gas Pipeline, Yukon (interim)	Indian and Northern Affairs	1977/1977
4. Uranium Refinery, Port Granby, Ont.	Eldorado Nuclear Ltd.	1975/1978
5. Shakwak Highway, Yukon	Public Works	1974/1978
6. Eastern Arctic Offshore Drilling, S. Davis Strait	Indian and Northern Affairs	1978/1978
7. Lancaster Sound Offshore Drilling	Indian and Northern Affairs	1977/1979
8. Uranium Refinery, 3 sites in Ontario.	Eldorado Nuclear Ltd.	1975/1979
9. Roberts. Bank Port Expansion, B.C.	Transport	1975/1979
10. Alaska Highway Gas Pipeline, Yukon	Indian and Northern Affairs, Northern Pipeline Agency	1977/1979
11. Banff Highway Improvements, Alta.	Public Works	1978/1979
12. Boundary Bay Airport, B.C.	Transport	1976/1979,

a. The Minister of Indian and Northern Affairs also appointed a Board of Inquiry, under Dean K. Lysyk, to identify and report on socio-economic impacts of the project.

Source: FEARO, Register of Panel Projects and Bulletin, No.11, March 1980

Limited's uranium refinery proposal at Fort Granby and then 4. at three other sites in Gntario; 5. Roberts Bank port expansion and 6. Boundary Bay airport reactivation in Southern British Columbia; 7. Shakwak highway in the Yukon; and 8. Lancaster Sound offshore drilling in the Arctic, Each of the eight projects is summarized below to show the degree of consideration and concern given to social impacts throughout its environmental assessment and review - in the EIS guidelines, in the EIS itself, in the public's response at the hearings (drawn mainly from the

Table 2
Federal Projects Under Review Under Earp, March 1980

Project	Initiating Dept./Agency	Referred
Alaska Highway Gas Pipeline, S. Sector, Yukon	Northern Pipeline Agency	1977
Arctic Gas Pilot Project	Indian and Northern' Affairs	1977
Banff Highway Improvements, Part 2, Alta.	Public Works	1978
Bay of Fundy Tidal Power, N.B. and N.S.	Bay of Fundy Tidal Power Review Board	1977
Dempster Pipeline, NWT and Yukon	Indian and Northern Affairs	1978
Eastern Arctic Offshore Drilling, N. Davis Strait	Indian and Northern Affairs	1977
Fraser River Training Works, B.C.	Public Works	1976
Lower Churchill Hydro Electric Project,, Nfld.	Energy, Mines and Resources	1974
Mackenzie Delta Gas Gathering System, NWT	Indian and Northern Affairs	1975
Norman Wells Oil Field and Pipeline, NWT	Indian and Northern Affairs	1980
Polar Gas, NWT and Southern Canada	Indian and Northern Affairs and Energy, Mines and Resources	1975
Quebec Port Expansion	Transport	1978
Slave River Hydro, NWT and Alta.	Environment, Parks Canada	1980
South Yukon Transportation Study	Transport	1976
Uranium Refinery, Sask.	Eldorado Nuclear Ltd.	1975
Vancouver Airport-Expansion	Transport	1976

Source: FEARO, Register of Panel Projects and Bulletin, No.11, March 1980

transcripts) and finally by the Panel in its report. Documents that were examined are cited in footnotes.

Point Lepreau Nuclear Power Plant

Description: A nuclear power plant at a site on the Bay of Fundy in a rural area near Saint John, New Brunswick (the Panel report, only 11 pages long, does no-t describe the project or site). "Proposed" by the New Brunswick Electric Power Commission (in fact, the project was already substantially underway when the Review began) with federal financial assistance.

Guidelines (1974): Social considerations included: public access; visual impact; health effects of radioactivity; and labour force effect on community cohesion, social institutions and occupational structure.

EIS:[16] Social impacts dealt with: community sensitivity to increased traffic, noise and visual degradation; effects of radioactivity on health; effects of labour force on housing and local employment.

Public Response: Social concerns focused on: need for the plant; safety of the nuclear facility; water contamination; and impact on the fishery.
Criticisms: EIS deficient in its analysisof the key issues; timing of EIS poor; and insufficient opportunity for public input.

Panel Report:[17] The report: noted public concerns as expressed at the one-day public meeting; focused on issues related to radioactivity and timing of the EIS and review; and did not deal with social impacts of the plant.

Outcome: Panel concluded that plant could be built without significant adverse environmental effects provided that a number of conditions were fulfilled (completion of a final EIS,[18] long-term monitoring program, research on effects of radioactive emissions, and national policy on high-level radioactive waste). The Minister accepted the Panel's recommendations.

2. Wreck Cove Hydroelectric Project

Description: Hydroelectric development (diverting seven rivers, building dykes, dams and canals, etc.) designed to

produce 200 MW of power, planned by the Nova Scotia Power Corporation. Located on crown land adjacent to Cape Breton Highlands National Fark at the north end of Cape Breton Island. No permanent settlement within the project area.

Cuidelines (1975): Social considerations included: effects on fishery, recreational and other resources; and long-term effects on nearby communities,

EIS:[19] Social impacts considered: population change due to labour force employment; effect on housing, schools, recreation and entertainment; social interaction and jobs; costs imposed on local economy; effects on fishery, hunting, trapping, forestry, transportation and aesthetics.

Public Response: Social concerns focused on: effect of temporary "overheating" of the local economy: disruption to way of life; impacts on trout, salmon, moose and bird populations, and the uncertain potential for mitigating: social impacts.

Criticisms: inadequate time to respond; EIS guidelines not followed; lack of public input to the guidelines; social impacts inadequately assessed; consultant's credibility to do social impact assessment questionable; lack of provincial representation in final hearings,

Panel Report:[20] The report noted a lack of public access to information on the project (planning was well advanced and construction had been approved by the Nova Scotia Legislature when the environmental review began). It did not address social impacts.

Outcome: the Panel concluded that the project could proceed with "acceptable environmental impact" subject to certain conditions, The federal Ministers accepted the report.

3. Uranium Hexafluoride Refinery, Fort Granby, Cntario

Description: Eldorado Nuclear Limited '(a. crown corporation) proposed a uranium hexafluoride refinery, (classified as a nuclear facility) on a site in a rural setting on Lake Cntario between Cshawa and Port Hope.

Guidelines[21] (1975): Social considerations included data requirements for "social and community factors": regional and local population, population distribution, labour force, wage levels, education, "social and recreational resources", transportation including hazardous spills, noise, town and regional plans, and "any other information that seems to be of consequence". Social impacts not mentioned specifically.

EIS:[22] Social impacts considered: labour force population inflow; effects of population growth on local housing supply, tax base, community services and educational facilities; effects on regional economy, hard services and community services; traffic impacts; and health impacts. A public opinion survey accompanied the EIS. Conclusion of the EIS: the proposal is consistent with current planning policies, project would bring distinct benefits to the community, 'and adverse social/ community impacts would be minimal.

Public Response: Social concerns raised: possible changes in current lifestyle, character and quality of life in the area; EIS underestimated impacts of an incoming labour force on local areas and housing; use of prime agricultural land; effects of air pollution on health and agriculture; fear and anxiety concerning low-level radioactive waste to be disposed of on-site; health and safety of workers; and concerns about nuclear energy generally.
Criticisms: the past record of Elorado Nuclear Ltd. in Fort Hope; confusion concerning EARP, Atomic Energy Control Board and other regulatory processes; credibility of government agencies and effectiveness of their environmental controls; no financial assistance available for citizen intervenors.

Panel Report: 23 The report focused on social concerns as one of the five main issues identified (the others were use of agricultural land, waste management, hydrogen fluoride emissions and monitoring). It concluded: "In the ENL proposal the social and community impacts on the local area were not covered adequately. Any new proposal should include a more comprehensive analysis of the anticipated impacts on the local community and evidence that its concerns have been taken into account",
Outcome: The Panel found the refinery and plant processes to be environmentally acceptable, subject to conditions, but found the proposed site to be unacceptable, primarily because it represented an unwarranted intrusion of an industrial use into an area whose present and future character will be rural and favour agriculture, and because

proposed waste management was unsuitable. The Minister of the Environment accepted the Panel's report. In supplementary recommendations the Panel called for funding of citizen intervenors, to be identified by a study.

4. Uranium iiexafluoride Refinery, Three Sites in Cntario

Description: Following rejection of its Fort Granby site, Elorado Nuclear Limited submitted three additional sites for review: one located in a rural area in Hope Township, west of Port Hope; another in Dill Township, adjoining Sudbury; and the third in the Town of Blind River, between Sudbury and Sault Ste. Marie.

Guidelines: Same as the Port Granby review'.
(1975)

EIS:[24] The chapters on "The Human Environment" in the three EISs covered: archaeological and historical resources; population and economic growth trends, local and regional, and relationships to municipal and provincial planning policies; implications of increased construction and permanent labour force; impacts on community services, both hard and soft, and housing; traffic impacts; and "community impacts" (impacts on specific settlements). They included a summary of the project's benefits and some of its social impacts. Health (radiological) impacts were dealt with separately. A fu rther chapter covered public involvemeht in preparation of the EIS and described public support for the Project at each site.

Public Response: Social concerns expressed in briefs and at the public hearings included: disruption to local farming operations (Hope) and to a unique rural lifestyle (Wanup community at the Dill site); adverse effects of potential annexation (Wanup); impacts on housing and social services, especially when other major projects nearby are taken into account (Hope, Blind River); concentration of nuclear facilities (Hope); health effects of low-level radiation from waste stored on-site; health and safety of workers; effects on native population (Blind River) and whether they would ***share*** the benefits; and concerns about nuclear energy generally. On the other hand many people wore concerned about the socioeconomic impacts of not getting the refinery. Much support for it was heard at each site and a-t one, Blind River, opposition was negligible.

Criticisms: credibility of Eldorado and the regulators; confusion over which public agency had ultimate responsibility for controlling refinery operations; validity of environmental standard:; especially those on radiation; difficulty for the public to obtain environmental monitoring information; no monitoring of social effect::; financial assistance provided by Eldorado to citizen groups supporting the refinery at public hearings but no assistance available to opponents; resources should be processed in the area where they are mined (Northern Ontario sites).

Panel Report:[25] The Report acknowledged adverse potential impacts at the Hope and Dill sites but found them to be out-weighed by the benefits. The Minister accepted the Panel's conclusion that the project would be

acceptable at any of the three sites provided that certain conditions were met. The Panel also recommended funding and otherwise assisting public participation, inclusionof social effects and occupational health in a monitoring program, and periodic review of the project as a whole, should it proceed (it did, first at Hope Township and then, following a reversal of the government's decision after an election, at Blind River) .

5. Roberts Bank Port Expansion

Description: Proposal by the National Harbours Board to increase bulk loading facilities at the Roberts Bank port terminal, located south of Vancouver, to facilitate the export of coal, sulphur, potash, grain, bulk liquids and other commodities.

Guidelines (1976): Social considerations included: a. people (population distribution,"life patterns", communities, employment, public facilities, housing); b. resource use (land use, historical and architectural features, related urban and regional development); and c. aesthetics and recreation.

EIS:[26] Social impacts addressed: community structure and population characteristics; economic base and employment; land use, development and ownership; development planning and control; municipal servicing and utilities; transportation; recreation; aesthetics; and community goals and attitudes.

Public -"response:

Social concerns included: noise, vibration and air pollution (coal and sulphur dust) from increased train traffic which would also increase travel time for farmers; alienation of agricultural land; effects of induced development and increased jobs and population; loss of jobs for local fishermen; economic concerns of a small Indian Band nearby; aesthetic impacts.

Criticisms: lack of funding for the intervening public; poor timing of public involvement; EIS justifies the project rather than making a clear statement on its environmental consequences.

Panel Report: 27

The report indicated considerable concern over social impacts. It criticized the EIS for its lack of an analytic framework for social impact analysis, for providing insufficient information on these impacts, and for not consulting with those most affected (the Indian Band). The proponent was also criticized for not providing assurance that proposed mitigative measures would be implemented.

Outcome: the Panel concluded that the project should not proceed, first, because significant ecological disruption would be created, and second, because "the information on social impacts, while generally inadequate and inconclusive, gives rise to concerns related to a number of potentially affected groups if the full expansion were to proceed" (limited expansion could be tolerated). The Minister of the Environment endorsed the Panel's key findings.

6. Boundary Bay Airport Reactivation

Description: Transport Canada proposed to reactivate, as a general aviation facility, the ex-RCAF base at the ecologically important Boundary Bay, 17 km south-east of Vancouver International Airport.

Guidelines (1978): Social considerations (in a section titled "Community and Social Planning Impacts") included: social implications of biological and physical impact::; noise; commercial and economic impacts; stress on municipal services; interference with residential communications; change:; in land values; effects on regional planning policies; andimpact on population growth and economic activity (including agriculture) in the region.

EIS:[28] Social impacts addressed included: aircraft noise; recreational opportunities created and lost; implications for municipal service:;; effect:; on agriculture; economic impacts; effects on land values; and changes in local property tax revenue.

Public Response: Public concerns: noise will detract from quality of life; traffic and safety problems; inadequate consideration of alternatives; need not proved; adverse effects on farming and recreation.
Criticisms: public survey was based on too limited a sample; information program poorly conducted, leading to a lack of public response; project approval is a foregone conclusion.

Panel Report:[29] The Panel's report, endorsed by the Minister, concluded that the airport could be reactivated

without significant adverse ecological or social impacts provided that appropriate procedures were followed and certain mitigative measures were implemented, especially the establishment of an Airport Liaison Committee to involve the proponent with the local community on an ongoing basis.

7. Shakwak Highway Project

Description: Reconstruction and paving that portion of the Alaska Highway from the Alaska/Yukon border to Haines Junction in the Yukon, and the Haines Road from Haines Junction to the B.C./Alaska border. Financed by the U.S. Department of Transportation; construction by Public Works Canada.

Guidelines (1976): Social considerations included: a. people (social, economic and cultural setting including population distribution, communities and employment); b. present land status (ownership, tenure and use of land, special status areas, regional plans); c. traditional and historic land use (hunting, trapping, fishing, campsite and gathering areas together with known archaeological and historic sites); d. aesthetics and recreation (visual resources, unique physical features, present and potential recreational use); and e. social impacts caused by environmental impacts (traditional land uses, noise, aesthetics, heritage values of Kluane National Park).

EIS:[30] Social impacts addressed: economic effects of construction; economic impacts of improved transportation; implications for housing, school

facilities, public safety, physical health services and facilities, emergency services, mental health and community cohesion, government services and finances, and land claims; loss of historic sites.

Public Response: Social concerns raised: local employment and training 0pportunities; disruption of community way of life; land claims; effects of traffic on wildlife and trapping; adequacy of traffic projections; loss of cultural identity; loss of historic sites; economic implications of the project (e.g., higher food prices); traffic; noise. Criticisms: EIS did not consider the history and tradition of native peoples; incomplete inventory of historic sites; not enough time to respond; lack of funding for citizen intervenors.

Panel Report: 31 The Report acknowledges that "the potential for adverse social impacts during the construction period is great" but concluder that they can be mitigated through the provision of social services and facilities, community liaison and information programs , monitoring and similar measures. The Panel concluded that "on the basis of available information, it is not possible to predict community impacts, mitigation measures and service requirement:: with any degree of confidence beyond two years" . It also considered the community impact analyses in the EIS to be "inadequate in content and organization", not allowing the development of appropriate mitigative measures. The Panel's solution to this problem was to recommend "the ongoing development of community impact reports by a team of qualified professionals" for the various corridor areas, to be submitted to

a 4-member Shakwak Review Committee reporting through FEARO to the Minister of the Environment and the Yukon Territorial Council.

Outcome: The Panel concluded that the project could be carried out without significant adverse environmental or social impacts provided that certain conditions were met. The Ministers accepted the report. Construction is underway. The Review Committee has been established.

8. Lancaster Sound Drilling

Description: Norlands Petroleum Ltd. proposed to drill an exploratory well to indicate hydrocarbon potential in Lancaster Sound, north of Baffin Island.

Guidelines: (1978) Social considerations included: a. people (population distribution and characteristics such as; traditional lifestyles, communities and employment; public facilities and housing; cultural and social and economic setting of the region with recognition of resource use and the natural environment; expected population changes); and b. resources (characteristics of the population dependent on the resources of the affected area; existing resource use including identification of historic and current native hunting and fishing activity patterns; areas of special status such as ecological reserves, native land reserves, villages, fishing stations, areas of archaeological or historic significance, and areas of religious or other cultural importance).

EIS: 32

Social impacts addressed were confined to employment and local business opportunities.

Public Response:

Public concerns focused on: effects on the Inuit way of life; land claims; the effect of a blowout and oil spills on biological resources, native food supply and livelihood, and Inuit economic goals; native employment opportunities; loss of community control to newcomers; increased pace of change too rapid to handle.
Criticisms: lack of data on the Inuit and effect of drilling on their way of life;. proponent did not visit the local communities; Panel composition; hearings inadequately prepared for, poorly structured and not objective.

Panel Report: 33

The Panel considered a range of socioeconomic impacts (e.g., effects of population growth on resources, rise in food costs, land claims), mostly raised by citizen intervenors during the public hearings,even though "in the absence of effective public information and education, the local public lacked the understanding necessary for evaluating potential future benefits of resource development? The Panel concluded that "the benefits of development will be optimized through the participation and consultation with the local people and that to do otherwise would be counter-productive".
Outcome: The Fanel concluded that to recommend in favour of or against the proposal would be arbitrary and that the proponent was not sufficiently prepared to undertake the proposed drilling in a safe manner with minimum environmental risk. It recommended that the project be deferred until the government has addressed the broader

issue of the best use(s) of the Lancaster Sound region, including socioeconomic considerations as a major factor in that determination, and the proponent has demonstrated the required capability. Additional recommendations were that initiating departments provide clear assistance and direction to proponents regarding public information programs and that FEARO should provide funds to enable intervenors to prepare adequately for public hearings.

Social Impact Problems in EARP

The foregoing examination of eight completed EARP projects indicates the kinds of social concerns that are on the agenda during review processes and how the key participants (FEARO, iniators, proponents, Panels and intervenors at public hearings) are responding.

For each of the four EARP elements examined – the guidelines prepared by the Panel and FEAR0 in consultation with various parties, the Environmental Impact Statement prepared for the proponent, public inputs via public hearings as recorded in the transcripts, and the Panel's report to the Minister – certain problems, concerning the assessment of the social impacts of federal projects, are apparent.

Guidelines

EIS guidelines set out categories of information considered necessary for a satisfactory evaluation of the proposed project's environmental/social implications. The guidelines, therefore, are or should be an important determinant of the adequacy of the EIS and of the remainder of the review process.

Examination of the eight projects indicates some problems in building social impacts into EIS guidelines.

1. Approaches taken rudimentary. In devising the social impact section of EIS guidelines, Panels (or, in some cases, committees of civil servants) seem to have taken one of two approaches or combined them. The first, most often used, puts the emphasis on certain community descriptors such as population size and distribution, employment levels, public services and facilities, and land use. The proponent is expected to describe how these variables might change if the project proceeded, the assumption

being that its social impacts can be derived from the proponent's Panel's and public's interpretations of these changes. The second approach focuses on certain social impacts or project outcomes expected to create social impacts – e.g., noise, influx of newcomers affecting community cohesion, stress on municipal services and facilities such as schools, changes in land values – and calls for their assessment.

Both approaches depend on the Panel's ability to select the variables appropriate to the project under review. And both count on the capability and willingness of the proponent to read between the lines and do more than is called for, to transcend single variables and dry statistics so that community dynamics are revealed, and to focus on the key issues (i.e., those that in retrospect turn out to be especially important).

2. Rationale uncertain. The underlying rationale used by a Panel to determine what should be included in an EIS is not made explicit. The proponent is left to guess at why the information is wanted, how it is to be used in the review, and therefore how far to go with field research and subsequent analysis. By contrast, information on 'physical or natural environment impacts is easier to relate to project design, environmental standards and mitigative measures.

3. No guidance on method. Guidelines are limited to content of the EIS, No guidance is provided on how social impact studies should be conducted (nor are EISs required to describe the methods used) even though most of the EISs examined were criticized by both the public and the Panels not just on content but also on study approach. One Panel was specific on this shortcoming:

> In attempting to understand the-potential social impacts of the project, the Panel's efforts were limited by a lack of reliable information. There is no analytical framework given in the EIS to assist the decision makers in following the the logic of the analysis. It appears that the proponent selected the data it thought relevant, predicted impacts on the basis of these data and made value judgements about the significance of these impacts. How the data were collected, organized and evaluated is not clear.[34]

In another Panel report, on the Shakwak Highway Project, terms of reference were proposed that covered both content and method (calling for documentation of the impacts of other similar types of projects and of differences between these and the project. under review) for the community impact reports that the Panel recommended be prepared by the proponent, should the project proceed.[35]

4. Public input limited. Only in the Boundary Bay Reactivation Project review was the public given an opportunity to comment on the guidelines. In all other cases guidelines were prepared without public input (recent FEARO policy, however, seems to make public comment the rule rather than the exception[36]). In some cases – e.g. a project initiated several years before the decision to conduct a full environmental review – even members of the Panel had no say in the formulation of the guidelines.

5. Guidelines not always followed. In five of the eight EARP projects reviewed, the guidelines were not fully met. The most obvious example is the Lancaster Sound EIS which focused mainly on employment and local business opportunities expected to result from the project; the list of social impact data called for in the guidelines was apparently ignored. Overall, those preparing EISs have tended to interpret guidelines narrowly. The Boundary Bay EIS, for example, responded to the request for assessment of the social impacts of potential physical and biological impacts by focusing on recreational opportunities.

Further comments on guidelines appear below, under "Public Hearings?

Environmental Impact Statements

The EIS is the major information input to EARP. Its adequacy, therefore, is critical to the review outcome, success/failure and credibility.

EISs submitted to the eight EARP reviews demonstrated a number of problems from the viewpoint of social impacts.

1. Social impact assessment inadequate. In recent EARP exercises most EISs have been criticized – by the public, the Panel or both – for their inadequate treatment of social impacts. Public participants at the hearings typically drew attention to non-adherence to guidelines, credibility and expertise of the consultants,study methods (sampling procedures for example), no or not enough consideration given to the way of life and concerns of the people affected by the project, and too little information for them and too little consultation with them during preparation of the EIS. Panels expressed additional dissatisfaction with the lack of reliable social impact data, the coverage given to social impacts, and the way they were analyzed and presented.

Proportionately, discussions of social impacts occupy far less space in the EISs than natural environment impacts. The EIS for the Lancaster Sound drilling, forexample, devotes 356 pages to a description of the physical and biophysical environments but says nothing about the people in the area, and it gives only 12 pages to a discussion of resource harvest patterns in each settlement. In addition, the depth of analysis given to social impacts tends to be superficial. An example is the

Shakwak Highway EIS which in only two pages examined the socioeconomic characteristics of the communities likely to be affected and in one paragraph dismissed an issue that had occupied 26 pages in the Berger report – the significance of the difference between the economies of native and non-native people.

Four problems are raised by the general inadequacy of social impact assessment in EISs submitted for review under EARP: proponents are making decisions without socioeconomic information of a calibre equivalent to data on natural and physical environments: public input is not as informed as it could be, thereby diminishing the value of the public hearing phase; Panels are not provided with the information they need to complete their work effectively: and both the specific review and the Environmental Assessment and Review Process risk a loss of credibility.

2. Narrow range of impacts addressed. Reflecting their guidelines, EISs typically confine their attention to the social impacts that are easier to grasp, measure and mitigate. A few standard categories have emerged:

- Services impacts: the project's effects on "hard" or infrastructure services such as sewerage, water and transportation facilities, and to a lesser extent on "soft" or social services such as education; health, welfare and recreation. The analysis seldom goes beyond numbers – e.g., so many new classrooms required as a result of the project but nothing on the effects that crowding or new educational demands will have on the quality of education.

- Housing: the extent to which the local housing market can

absorb incoming temporary and permanent workers and their families. Little is said about effects on the housing market or how, say, sudden increases in house prices might affect residents who are now just barely able to cope with shelter costs.

@Fiscal impacts: the consequences of locating the project here for the fiscal position of local governments and their ability to provide required services.

●Land use impacts: direct effects of the project on adjoining land uses (such as agriculture) along with the implications of using the site itself and conformity of the proposal to local land use planning and controls. Subtler issues, such as the secondary or induced effects that the project might create (e.g., economic linkages with other industries and businesses, multiplier effect, associated urban development generated, longer-term effects of industrial intrusion into agricultural areas, etc.) are seldom addressed even though experience indicates that such impacts are often more significant than the apparent primary impacts.[37]

Missing from the foregoing categories are the impacts of projects on the way of life and the quality of life for the people directly affected. Many of the things that concern people most fall under these two rather vague but evocative labels. When they are left out of a "social" impact study or appear to receive low priority in the larger assessment and review process, Public criticism is a likely and not surprising result.

3. Expectations and responsibility of proponents unclear. Proponents and their consultants also have problems with the social impact component of EISs. While it is probably becoming clearer to proponents that social impacts are increasingly important factors in determining the overall acceptability

of their projects, it is not as clear what implications this has for the way EISs are prepared. What purposes social impact data are to serve and how they will be used in Panel decision-making and thereafter are questions answered in retrospect, when Panels and the public criticize an EIS as inadequate, but not in advance, when guidelines are issued. That leaves it up to proponents and their consultants to decide how much emphasis to give social impacts and where to focus that attention. A common response is to put the minimum in the EIS and wait for the deficiency list. Unfortunately, government reviewers of EISs pay little attention to social impacts, considered outside their mandates. Similarly, Panels are generally unable at that stage to ask specific questions or to make their data needs explicit. And so, social-impact shortcomings are not revealed until the public hearings, late in the process. No interests are served by such an approach.

4. Public consultation. EARP relies on proponents, whose EISs are seen as "objective" analyses of project implications, to consult with affected publics when assessing social impacts. Criticisms made during the public hearings suggest that public consultation during preparation of the average EIS is quite restricted, sometimes to the extent (as in the Lancaster Sound case) that the project is turned back. On the other hand it is questionable how much responsibility the proponent should assume in this regard and how "objective" proponent analyses of social impacts can be expected to be.

Public Input

The public hearing phase of EARP appears to have two purposes: first, to assist the Panel by providing various information and viewpoints on projects under review; and second, to give concerned individuals and groups, particularly those affected

by such projects, an opportunity to become informed and to express their opinions. Material issued by FEAR0 implies that the first objective is primary and that the second one serves the first rather than being an end in itself. A further objective, unstated, is common to all such processes: to legitimize each project review and the Environmental Assessment and Review Process generally.

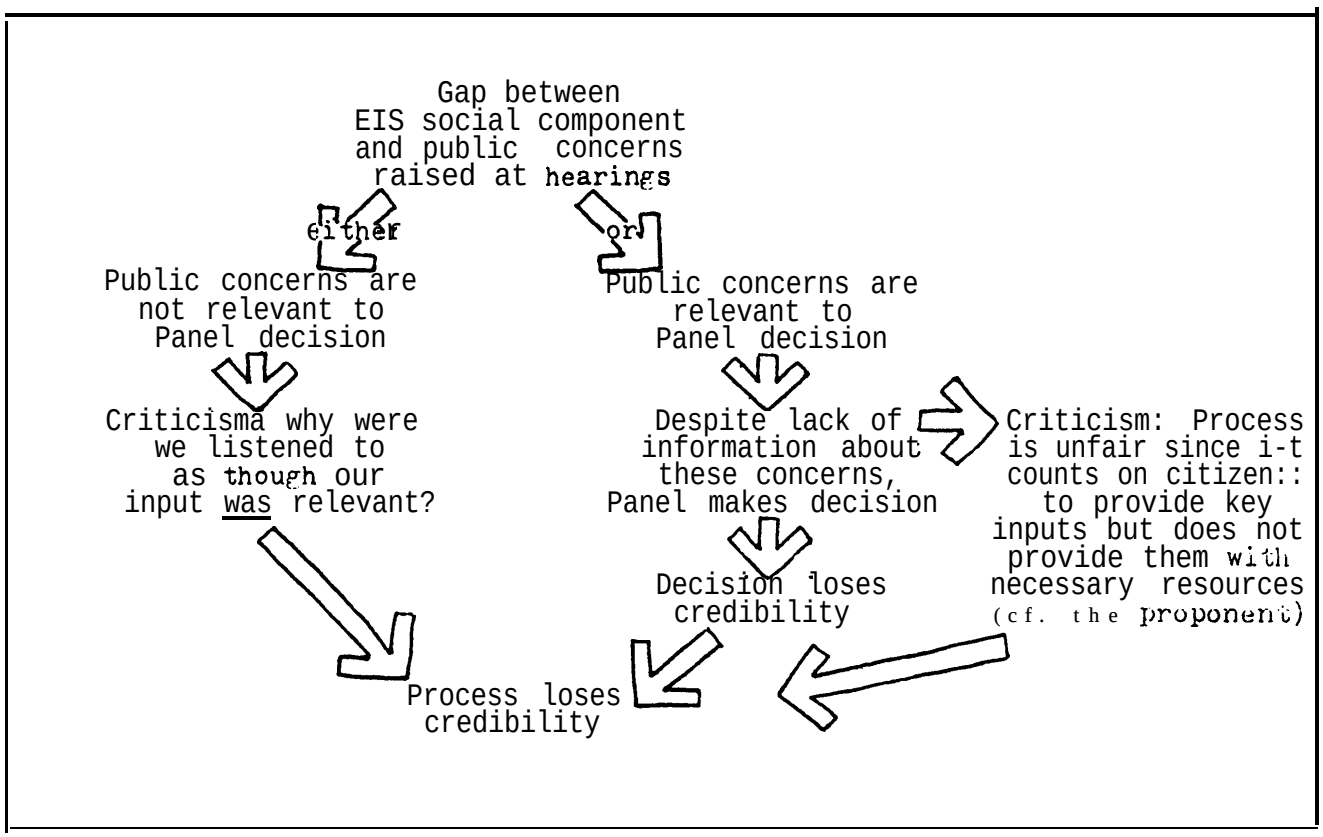
Criticisms and concerns raised during the public meetingsand hearings for the eight projects examined reveal two basic problem related to the assessment and review of social impacts.

1. Public concerns not fully addressed. Neither the guidelines nor the EISs appear to have adequately addressed the concerns of members of the public who submitted briefs and participated in the public hearings. Comparison of the EISs and articulated public concerns indicates a substantial gap between what was deemed socially significant by (a) those preparing guidelines andproponents and their consultants, and (b) people in affected areas. The former emphasize impacts on the economy, services, housing and land use while the latter are more concerned about changes to their way of life. A question this raises is whether the second kind of social impact can be expressed adequately by "outsiders" who have not experienced living in the area and who cannot know all that is needed to second-guess local concerns or predict how people will respond to expected social impacts,

2. Process credibility auestioned. Most of the EARP projects appear to have encountered difficulty in meeting the expectations of their publics. The most prevalent complaints dealt with lack of time to respond to the EIS, poor information and consultation programs, absence of funding for citizen intervenors attempting to make their case in opposition to the proponent, and the perceived injustice of this situation.[38] When these criticisms are combined with problem 1, major

public concerns unaddressed by the EIS, the result is likely to be loss of credibility for the Panel's decision and EARP, as Figure 5 illustrates. If the unaddressed public concerns are not relevant to the Panel's decision (no matter how valid these concerns may be in other more appropriate forums), people will wonder why they were listened to as though their input was important. On the other hand, if the public's concerns are relevant but insufficient information is provided to back them up, people will wonder how the Panel was able to reach its decision; and they will be critical of the lack of resources, especially funding, available to citizen participants compared with the proponent who can spend large amounts of public funds to make his case.

Figure 5
A Credibility Problem



Either way, the credibility of the Panel's decision is liable to suffer. Avoiding this no-win situation implies minimizing the gap between the EIS and public concerns (improved guidelines, clearer public expectations, etc.), giving citizen groups a more specific role in EARP and assisting them to perform it, providing for further social impact assessment after the first round of hearings, or other options.

Panel Reports

The Panel report is the culmination of EARP (the Ministerial decisions that follow are considered to be post-EARP). Preparation of the report, at the centre of which is the reaching of a decision on the proposed project, is a-kind of black box. It has distinct inputs and (usually) an unequivocal output but what happens in between is obscure. What is apparent, with reference to social impacts, is that certain problems have arisen.

1. Increasing emphasis on social impacts. A trend can be observed in EARP projects. At the beginning social impacts were not considered. Then, in the early projects, Panels and publics began to comment on the adequacy of EISs from a social impact standpoint. Social concerns were subsequently added to guidelines and were addressed, in increasing breadth and depth, in EISs.[39] Panel reports disclosed social impact issues raised during public hearings. Finally, social impacts assumed major importance in a few Panel decisions.

Today, social impacts are accepted as a likely component of any EARP exercise. So acknowledged, they are beginning to receive attention in terms of the adequacy of the analysis behind them and where further emphasis on such impacts could lead environmental assessment and review.

One measure of the increasing emphasis on social impacts is the appointment of Panel Members, often from outside the federal civil service, with backgrounds in the social sciences (especially sociology) and other fields not natural or applied sciences. Technical experts in socially oriented fields are also being used more often.

2. Panels ill-equipped for social impact decisions. The shortcomings of guidelines and EISs, together with the limited resources available to citizen groups participating in the public hearings, appears often to leave 'Panels, even those that include social scientists, ill-equipped to determine the acceptability of proposed projects on social impact grounds. Yet they must and do make these decisions. Although various Panels have noted this problem it seems no nearer to being solved and it may even be getting worse as public pressure to deal with social impacts increases.

3. Uncertain follow-up of social impacts. The problem here is that proponents can "deal with" social impacts by proposing mitigative measures with no assurance that they will be adopted. Perhaps the proponent never intended that they would be but advanced the measures only to secure Panel approval: or such measures may be outside the proponent's area of responsibility (a concern noted by the Roberts Bank Panel). Complicating the situation is the fact that after EARP the project is unlikely to face any further regulatory processes that give explicit attention to social impacts. By contrast numerous controls safeguard natural-environment recommendations.

A similar problem occurs when a Panel qualifies its acceptance of a project by stating conditions intended to lessen social impacts. An example comes from the Panel report on the Eldorado uranium refinery proposed at Blind River, Ontario:

"To minimize negative social impact on the community, there should be careful planning and cooperation between the Town of Blind River, Eldorado and government agencies associated with the region, especially those responsible for the Official Plan, housing and municipal services", A Panel has no power to compel the implementation of such measures and no systematic means exist to go back after the project is underway and discover if the conditions were met. The absence of post-action evaluation (such as an overall review of the project five years later, tied in with a AECB licensing requirement, as recommended by the Eldorado Panel) and of ways to ensure that such conditions are followed (such as the impact agreement approach, discussed in Chapter 3) gives Panel provisos on social impacts a hollow ring. Again, the credibility of the process is opened to question.

4. Public capability not assisted. If Panels expect citizens and groups at public hearing to provide important information inputs to Panel decisions, the capability of the public to meet this expectation becomes a potential problem. Adequate time, access to information and technical resources, and the ability to make and present a case effectively are some of the main indicators of capability. Few citizens or groups would qualify without some assistance. Citizen intervenors have been funded in other environmental assessment exercises (e.g., Mackenzie Valley Pipeline Inquiry&luff Lake Board of Inquiry in Saskatchewan), by the provincial government for at least one EARP project (Eldorado's proposed uranium refinery near Warman, Saskatchewan) and by the proponent (Eldorado provided some assistance to pro-project groups in the Ontario uranium refinery project). Various Panels have recommended that public participation in EARP be strengthened, including consideration of financial assistance for citizen groups. So far, however, there has been no public response from FEARO.

Table 3 summarizes the problems, related to social impacts, that were raised in the guidelines, EISs, public input and Panel report phases of the eight EARP projects reviewed.

Table 3
Social Impact Problems in EARP

EARP Element	Problems Related to Social Impacts
Guidelines	Rudimentary approaches to social impacts Uncertain rationale for requested information No guidance given on method Public input to guidelines limited Guidelines not always followed
Environmental Impact Statement	Social impact components inadequate Narrow range of impacts addressed Expectation, responsibility of proponents unclear Public consultation poorly conducted
Public Input	Public concerns not fully addressed Process credibility questioned
Panel Report	Increasing emphasis on social impacts Panels ill-equipped for social impact decisions Uncertain follow-up of social impacts Public capability not assisted

Underlying the problems identified in this chapter are a number of deeper conceptual and methodological issues – for instance, how to decide what social impacts to assess, how to determine adequacy (of data, analyses and assessment), how much to expect of proponents, and how to make effective use of public input and public hearings. These issues and others common to the social impact assessment field are examined in Chapters 3 and 4.

Chapter 3

SIA: The Emerging Field

To what extent is social impact assessment a discrete, established field of theory and practice? At least three answers are possible, each with different implications for those responsible for impact assessments and review processes:

- The field is reasonably well defined and established. Such an answer implies that: a distinct body of knowledge and skills exists; the competence of practitioners can be determined and tested; and both practitioners and theoreticians in the field share a common view (or paradigm[1]) of what it encompasses and how problems presented to it should be approached. This does not necessarily mean unanimity in the field; especially in the early stages, and later on from time to time, opinions will diverge on key issues. But it does imply sufficient consensus to allow the field to be clearly defined and to develop.

  If SIA is a mature field, agencies with impact assessment responsibilities have reasonable assurance, when they require social impacts to be assessed, that (a) competent people will be available to do the necessary studies and (b) the SIA exercise will be credible and its results will be defensible.

- The field is emerging. In other words, SIA, though not yet mature is developing rapidly and has good prospects of becoming a discrete, established and recognized field in the near future. In the interim period it can be expected that some individuals – sociologists, cultural anthropologists, social psychologists and community development workers are prominent examples – will claim greater legitimacy than others in the practice of social impact assessment.

  If SIA is still in the emerging stage, agencies such as FEAR0

face some problems in determining (a) in specific cases, whether socialimpacts can be adequately assessed and reviewed and by whom, and (b) more generally, whether development of the SIA field is worth encouraging. Yet, ignoring social impacts will expose agencies to criticism not only from SIA *advocates but also from concerned citizens who have heard of the new approach and wonder why it isn't being applied. Confronted with demands to pay more attention to social impacts, such agencies might'respond pragmatically by seeking a range of inputs from experienced scientists and professionals in both the SIA and allied fields as well as from knowledgeable citizens experienced in living in areas affected by the proposed project.

- The field is virtually non-existent, That is, so much diverse opinion exists concerning the assessment of social impacts that it is next to impossible to distinguish fact from opinion or expert from charlatan.

  If SIA is effectively non-existent, agencies with impact assessment responsibilities will have to rely heavily on public inputs through such means as written briefs and hearings. And they are likely to judge social impacts on case-specific and mostly subjective grounds.

The first two of these three positions are similar in one respect: both are pro-SIA. Their differences can be set aside for now (they are picked up in Chapter 4) to focus the discussion on the argument between those for and against social impact assessment.

Those who strongly advocate the further development and application of social impact assessment point to a parallel with environmental impact assessment which draws on the environmental/life sciences for its concepts of the functioning of natural systems and the manifestation of environmental impacts. SIA, they argue, similarly leans on the social sciences. But a new cross-disciplinary field such as SIA needs more than concepts.

It also requires a conceptual framework to tie the concepts together, to define "social impacts" and to assist the practitioner in assessing them. That is, in a mature field the practitioner does not merely respond to problems in specific social settings: *practice is directed and made more efficient by theory. A sound conceptual framework guides the search for data and helps explain cause-effect, it enables the practitioner to function effectively without having to return to basics in each case, it allows the practitioner to move easily from one situation to another, and it aids in communicating complex subject matter simply.[2]

No single conceptual framework has gained wide acceptance in the social impact assessment field. The next section describes three frameworks, with variants, that have been devised to guide practice.

Alternate Conceptual Frameworks

Three of the schools of thought that have emerged in social impact assessment are outlined here: social institutions and social change, community as ecological system, and quality of life.

Richard Gale, in work done for the U.S.Forest Service,[3] recommends an SIA approach oriented toward social institutions. His approach translates a set of concepts, drawn from the field of sociology, into a framework comprising nine social impact categories with associated variables and components:

- Social institutions, defined as sets of formal and informal rules, behaviours and practices that surround a specific basic function in society.[4] Gale considers five major social institutions in the project area – the family, the economy, politics, education and religion – and the way in which these institutional needs are met. For example, the family as an institution might be affected by the employment of spouses

Of main wage&earners, by increased commuting time to and from work or by the introduction of shift work. Similarly, the educational system could be affected by changes in the numbers or age composition of students or by revisions to the tax base for school funding. If the project altered the way these institutions function — for instance, by affecting the amount of time family members spent together — it could necessitate some institutional adjustments.

Table 4
Social Institution Variables and Components

Institution	Components
1. Family	Family characteristics Family economic indicators Family forest resource use
2. Economic a. Employment and income	Employment and unemployment Income Rural poverty
b. Infrastructure	Transportation Communications and media Utilities Housing Emergency preparedness Health Social services
3. Political	Legislative and partisan activity Government size and activity Government financing Citizen-government linkages Voluntary association activities
4. Educational	Educational resources Educational users Educational status of population Educational and scientific opportunities
5. Religious	Religion-based ethnic norms and values Religious system resources

Source: U.S. Dept. of Agriculture, Forest Service, Social Impact Assessment: An Overview, 1977: 5.

The assessor% task would be to determine the capacity and willingness of the affected institutions and people to make the called-for changes and to assess the social costs that would result.

- Lifestyle, termed "ways of life" by Gale, focuses on several variables that "in a particular situation best characterize the relatively distinct way in which a certain group of people go about their daily activities? Variables typically considered include community culture change, cultural and recreational opportunities, special group access (e.g.,for the elderly, handicapped, poor),security provided, and open space.

- Special concerns reflecting special interests of the society, which governmental and other agencies are required by law or a sense of duty to take into account (e.g., minority and civil rights, and historic and archaeological sites).

- Cohesion and conflict, basic processes that bring people together or pull them apart. Society is seen to be in a state of continual change with new issues emerging and old issues either resolved through accommodation or remaining as sources of conflict. An example cited is locating a destination ski resort next to a "traditional" community; conflicts of values and reduced community cohesion may result if values held by resort users differ significantly from those of existing residents.

- Land tenure and land use, the concern being the way changes in land tenure and land use, within the area covered by the proposed action, change or otherwise impact on tenure and use of adjacent lands. Land ownership patterns emerge from family, economic and political processes while controls over land ownership and use come from the political sector[5] (discussed further under the approach taken by Ruth Love, below).

- Population dynamics, quantifiable measures of population change including such variables as population size, growth/decline, displacement, structure by age and sex, etc.

- Community context, an attempt to arrange and portray the description of the setting and the impact information in a way that conveys, better than dry statistic&the groups or communities within which people live. Variables include community identity and sense of place. An assessment consideration is whether identified impacts (say, employment at a plant) would be the same fordifferent communities within the affected area (i.e.,will there be"differential impacts"?).

- Symbolic meaning which refers to the special, emotional or sometimes almost "irrational" meaning or importance people attach to certain resources or community features.

@Basic values, the sociocultural values held by people and groups,are relatively slow to change and are not situation-specific. Gale argues that the usual way in which project actions affect basic values is by causing significant population changes that bring people with different basic values into the community (the ski resort example again).[6]

The foregoing basic list of impact categories serves as a starting point from which to choose those specific variables to describe people, communities and institutions in the area affected by a proposed action, and to predict how these might change as a result of the action, taking into account the fact that some change will occur in any event. Once these·variables have been selected the impact assessment process follows a set procedure:

A. Inventory of the present situation, using four types of social data (statistical, observational, written and

respondent-contact) intergrated in an attempt to get a sense of what life in the area is really like.

B. Past/present relationships including trends and key historical changes, to obtain a further understanding of the current social characteristics of the affected area.

C. Exploration of possible futures using one or a combination of methods (trend extension, population multiplier, local experts, citizen estimates, comparison community, and scenarios).

D. Comparison of action alternatives to predict the social impacts of the proposed action alternatives, with the results presented in a combined qualitative (words) and. quantitative (numbers) form. A final step, summarizing social impacts in some type of matrix or ranking system, may or may not be included; its advisability is debatable.

A variation of the institutional approach is advocated by Ruth Love, a sociologist with the U.S.Army Corps. of Engineers. Her institutional domain/social change approach draws on two intersecting concepts – social change and social system.[7]

Human communities are seen to be continually undergoing social change. Social impact assessment asks how the impact area has changed in the past and what the likely course of change would be in the future, with or without implementation of the proposed project. The second concept, of a social system, embraces a set of social institutions (economic, political, educational, religious, recreational) together with roles and interactions. These are summarized in Table 5, a broad classification scheme intended to suggest the types of social

Table 5
Classification of Major Social System Components[a]

Institutional Area	Institutional Value	Creators	Purveyors	Regulation/ Enforcement	Recipients Described by		Mode of Stratification	Medium of Exchange
Economy National level Regional level Local level	Prosperity	Producers Boards of Directors Executives Managers Workers (Unions) Salesmen Unemployed and Job Seekers	Dealers Boards of Directors Executives Managers Workers (Unions) Salesmen Unemployed and Job Soakers	Supply/Demand Inspectors Regulations	Consumers Consumer Organizations	Age, Sex Lthniclty Family Members Place of Origin Occupation Income Commitment to Work, etc.	Wealth Occupational Prestige	Money/Barter/ In Kind
Polity National Regional/ State level Local level	Order	Rulers Executive Legislative Judician Political parties. Interest Groups,	Administrators Federal State County Municipality Neighborhoods Family	Inspectors Regulations Police Military	Citizens Political Parties, Interest Groups, etc.	Same as above Commitment to Political Philosophy	Power Normative power Remunerative power Coercive power	Votes, favors
Education National Regional/ State level County level Local level	Knowledge	Scholars Researchers	Teachers Superintendents College Presidents Board of Directors Principals Deans, etc.	Accredation Agencies Examiners Truant Officers	Pupils, Students	Sex Ethnicity Family Members Place of Origin Occupation, Income Commitment to York. etc.	Competence	Grades Gold Stars Degrees
Religion National level Regional level Local level	Sacred Beliefs Salvation, Grace	Prophctr	Clergy Church Infrastructure Sect Leadership		Believers, Parishioners Followers		Holiness, Piety	
Arts National Regional/ State level Local level	Beauty Form Expression	Art ists	Pcrf ormers Entrepreneurs Museums Theaters, Jtc.	critics Censors	Audience Viewers		Taste	Appreciation

a The classification scheme presented here is intended to suggest types of social units to include in a social assessment. It is founded on several assumptions (see the source, below).

Source: Ruth Love, Doing Social Effects Assessment: Two Cases from a Corps Field District (Fort Belvoir, VA: U.S. Anny Engineer Institute for Water Resources, Nov. 1978), Appendix A. Adapted from Hans Zetterberg, Social Theory and Social Practice (New York: Bedminister Press, 1962) and Talcott Parsons, "General Theory," Sociology Today, ed. R.K. Merton et al. (New Yorkr Basic Books, 1959).

units to include in a social impact assessment of a proposed action. An underlying assumption is that instiutions are intertwined in varying degrees so that chance in one is likely to stimulate change in others.

Love applies, in her social impact assessment work, a conceptual scheme that interrelates Socialsystem, land use and population factors . Land is seen as a non-human input to social systems and land use effects are treated as social system outputs. For various reasons, however, they are separated from other social effects .[8] Population characteristics and movements, such as the displacement of people living in an area to be flooded or the in-migration of construction workers, are treated as human inputs to social systems.

The end product of the social assessment process is an analysis, first, of how social institutions (formal ones, like schools and governments, and informal ones such as groups of families or friends) might be altered by a proposed action, and second, of how people's patterns of living might be changed.[9] To illustrate her point, Love reviews the institutional impacts that water resource projects would create, drawing from social impact assessments she has conducted:[10]

*Elimination of a hamlet would force 130 households to relocate, thereby disrupting meaningful kinship ties.

@Absorption of the grade school by a school in another community would change the stucture of parental involvement in the educational system.

●A church-affiliated high school, a source of local pride, would... also be lost. Local churchgoers would have to switch affiliations to a similar denomination about a half-hour drive farther downstream.

@Dislocation of the high school could lead to its demise. Trustees have been advocating closure due to high costs. Parents of students, however, want to retain the rurally oriented school.

●A store that would be eliminated functions as a social gathering spot for people in the valley.

To assess the significance of each of these impacts, Dr. Love argues, the potential for adaptation to social change would have to be taken into consideration:

> Peoples's capacities for adapting to change with a minimum of tension and anxiety depend on a variety of factors including income and level of education, past experience with change, whether they regard the impending change as favorable, and whether they are integrated mainly in one fairly tight-knit social group or have a variety of social ties to several diverse groups and communities.[11]

Instead of focusing on social institutions, some SIA practitioners base their work on a human-ecological framework that draws from sociology and ecology.[12] Murdock summarizes the field's basic principles and then goes on to relate them to an impact assessment method:

> ... The premises of human ecology emphasize the man-environment relationship, the collective nature and consequences of adaptation to environment, the interdependencies within human groups and between such groups and other organisms within a total system, and the unique role of man in expanding his own domain within the system through a variety of technological and organizational changes.
>
> [Social] impact assessment [can be] conceptualized as an ecological analysis consisting of (1) the discernment of the boundaries of the impact ecosystem, (2) establishing the basic (baseline) conditions in that ecosystem, and (3) tracing the adaptations (changes or impacts) required of the area's population and organizational structures as a result of technological (project) alterations of the environment,.. This adaptation includes both the somatic type involving individuals and the communal or group forms.[13]

To illustrate the human ecologist's perspective in social impact, Murdock considers the changes that accompany a large industrial development located in a rural area (in the language of the field, a process of "differentiation"). He notes a typical sequence of change:[14]

- A marked change in the area's sustenance base.,. The traditional function, usually agriculture, is displaced by the new industry.

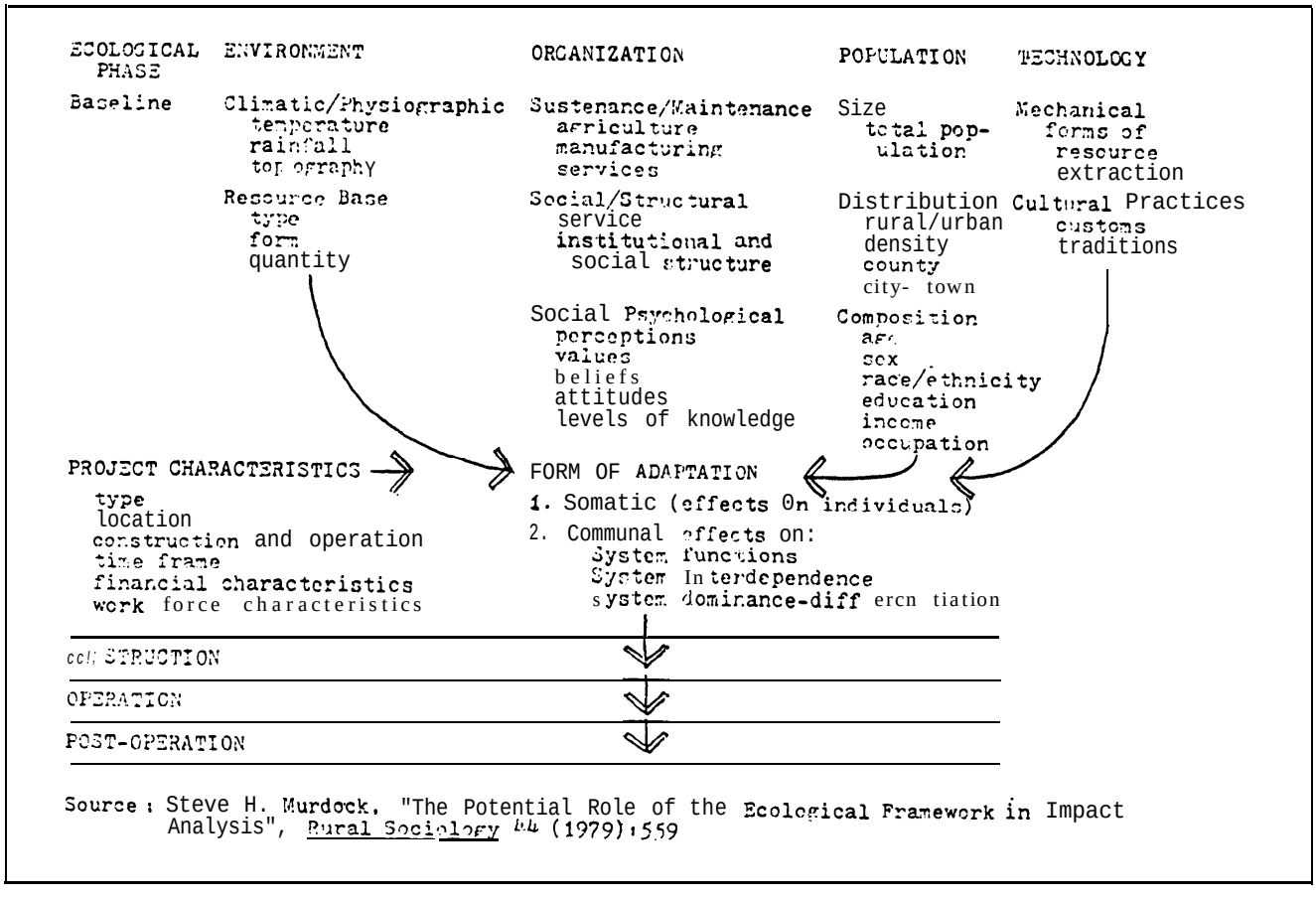
- ...produces a change in Patterns of dominance, in part because levels of adaptation are not uniform... Those most closely tied to the new development, having the greatest control of events, may experience increases in status and

resources while those least able to adapt to its implications suffer the opposite. Benefits and costs tend to be distributed unevenly. Newcomers are more likely to benefit than the old-timers who may find themselves declining in status and losing community control.

- ...resulting in an increase in competition and conflict... Invasion by strangers and loss of control can be expected to produce social conflicts.
- ...although the effects vary by environmental context. Different environments yield variations in these effects and require different forms of adaptation.

Impact assessment, therefore, is conceptualized as the analysis of the effects resulting from the adaptation of individuals and

Figure 6
A Human Ecological Framework for Impact Analysis



Source: Steve H. Murdock, "The Potential Role of the Ecological Framework in Impact Analysis", Rural Sociology 44 (1979):559

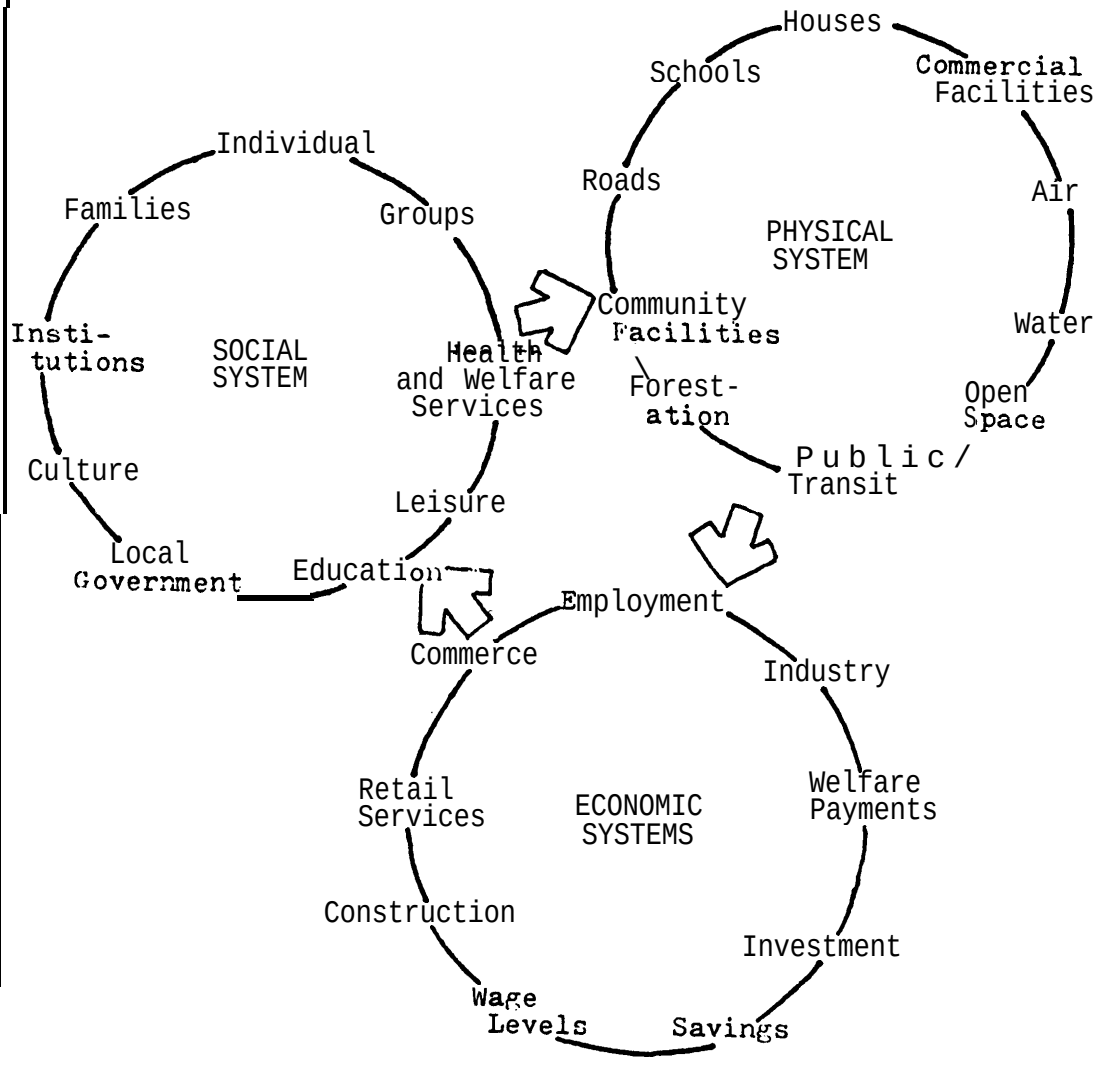
populations to environmental alterations. The impacted area is thought of as an ecosystem with various components depicted, along with kinds of data to be considered in the impact assessment, in Figure 6. Of central concern to such an analysis are how the ecosystem (community) functions, what the major forms of interdependence are (both symbiotic and commensalistic[15]), how differentiation and dominance affect the distribution of impacts, and what the changes are over a longer period of time.

An offshoot of the foregoing approach, "the community as ecological system", brings in the field of systems analysis. Its advocates, Lou D'Amore and Shiela Rittenberg, believe that "an essential requirement for successful SIA is the evolution of a theoretical framework which can guide all dimensions of assessment throughout the course of a study".[16] They focus their analysis on the processes of social change through consideration of three interacting subsystems of a community: the social system, the economic system and the physical system (Figure 7).

The need for social impact assessment arises when an action has been taken or is proposed that is external to the community context. Such intervention may push the system away from stability[17] and introduce stresses into the system. The intervention may be positive or negative but this can only be determined through examination of local community goals, values, aspirations and attitudes, in turn arrived at through community dialogue. The conduct of a social impact assessment therefore involves: 1. defining the "existing ecology': 2. ascertaining those components whose system will be affected by the proposed intervention, 3. determining the nature, magnitude and duration of these effects, 4. determining how these in turn affect the social system both directly and indirectly, and 5. suggesting mitigating measures to assist the social system to return to a "stable or more stable state?[18] Linking social impact assessment to such a concept of stability is controversial, however. Various writers – Schon, Lock Land, Dunn, Trist, Mack, etc. – have

criticized the notion of stability as a goal in social and ecological systems as superficial and misguided.[19]

Figure 7
Community as an Ecological System



Source: Lou D'Amore and Sheila Rittenberg, "Social Impact Assessment: A State-of-the-Art Review", Urban Forum 3 (March 1978):27

The human-ecological framework differs in several ways from the social institution/social change approach. The former is b'roader in scope, deals more explicitly with the relationship of the community to its larger context, and attempts to uncover patterns of dominance and competition which govern social change processes. On the other hand the latter is more fully developed and its theoretical base is better grounded in research and practice. Both approaches focus on the way a community functions day by day. And both emphasize the potential for human adaptation to change.

Several attempts have been made recently to develop a theoretical framework for SIA, based on concepts of quality of life and social well-being. Linked to recent work on social indicators, this approach claims to be more "objective" than the 'two frameworks just described. Ben-chieh Liu, for example, has developed a quality-of-life production model applicable at the metropolitan scale.[20] It produces Q-O-L indices by which various efficiency and equity impacts are identified, measured and weighted for use in project evaluation. Indices are computed from census data using 123 measurable factors, examples of which are listed in Table 6, grouped under five components: economic, political, environmental, health-education and social. Liu contends:

> With the model, indexes based on objective measures from physical changes can be quantitatively constructed for QOL components with and without the project. The difference in the component indexes can be used to reflect the project impact on various grounds so that alternatives can be differentiated, priorities set and decision made.[21]

To assist in determining the significance of the measured quality of life changes, Liu recommends that each of the components be weighted by concerned citizens in the community affected by a proposed project. In this way community preferences or values can be reflected in the assessment of the change in quality of life that would likely result from the project.

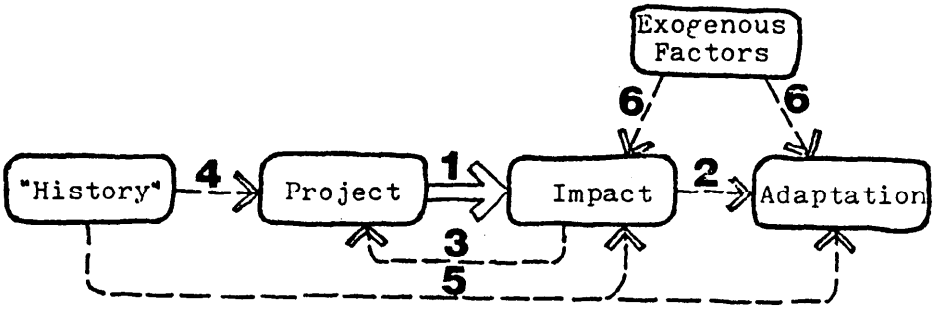
Table 6
Quality of Life Indicators

Component	Factors/Indicators*	
Economic	Individual economic well-being	Personal income per capita Wealth
	Community economic health	% of families above poverty level Degree of economic concentration Total bank deposits per capita Unemployment rate
Political	Individual activities	Informed citizenry Political activity participation
	Local government factors	Professionalism Performance Welfare assistance
Environmental	Individual and institutional environment	Air pollution index Visual pollution Noise Solid waste generated Water pollution
	Natural environment	Climatological data Recreation'area and facilities
Health and Education	Individual conditions	Health Education
	Community conditions	Medical care Educational attainment
Social	Individual development	Opportunity for self-support Promoting maximum development of individual capabilities.. Widening opportunity for individual choices
	Individual equality	Race Sex Spatial
	Community living conditions	General conditions Facilities

* Selected from a considerably larger list.
Source; Ben-chien Liu, "A Quality of Life Production Model for Project Impact Assessment?, in Methodology of Social Impact Assessment, ed. Kurt Finsterbusch and C.P.Wolf (Dowden, Hutchinson and Ross, 1977):188-195.

A similar model focusing on qualities of social life, has been devised by Marvin Olsen and Donna Merwin.[22] Their work responds to the criticism that "use of the cost-benefit format for social impact assessment has often resulted in environmental impact statements designed to demonstrate that the benefits to be gained from a proposed project will undoubtedly outweigh expected costs, rather than to ascertain the full nature and extent of the probable impacts?[23] Social impacts are conceived as "all changes in the structure and functioning of patterned social ordering that

'gure 8
.e Temporal Context of Social Impacts



The direct impact 1 is a chance in the initial condition created by the project, in this case, a construction project. Ending the analysis there, however, would distort the reality of social impact, in several ways. First, the changed condition leads to adjustment and adaptation 2. But not all individuals, groups, communities or institutions are affected similarly and they have varying capability to adapt: there is likely to be *differential social responsiveness on the part of the impacted units". Second, during the planning phase the project itself may be adapted **3** in response to public opposition or other inputs. In addition the project reaches into the past **4**. It may be a solution to certain problems, a response to perceived opportunities, or an outcome of some earlier declared intent. This "history' conditions public rssponsivencss at the points of direct impact and subsequent adaptation **5** (people may question the need for the project, doubt that adjustments will be possible,. etc.). History also affects the flexibility of proponents and regulators to respond to these demands. Finally, exogenous factors (such as other projects, plans, events) 6 compound the problem of deciding which effects are attributable to the proposed project.

Adapted fromt C. P. Wolf, "Social Impact Assessment: The State of the Art', in Social Impact Assessment, ed. C. P. Wolf (Environmental Design Research Association, 1974):11

occur in conjunction with an environmental, technological or social innovation or alteration? Since impacts are seen as dynamic processes rather than static events, and because they interact with their original causes reciprocally, they are measured over time. Figure 8 illustrates this interactive process for a construction project.

The Olsen/Merwin framework incorporates 55 factors or community characteristics under six headings: demography, economy, social structure, public services, social well-being and collective responses (which measures how a community maintains or improves its quality of life). Each factor is measured by an index comprising one or more indicators. "Political participation", for example, is determined by combining the score for the proportion of registered eligible electors with the turnout rate at local elections. The overall aim is dynamic system modeling, that is, using computer-based models of interacting variables – the trick is to know how the variables affect each other – to identify, predict and evaluate all the impacts likely to result from a specified alteration in the system.[24]

Quality of life frameworks for SIA are still in the developmental stage, The main difficulty with the approach, Liu points out, is "There is no consensus as to what quality of life is all about, how quality of life or other social indicators should be defined, and for whom and in what manner they should be constructed".[25] Elaborating on this problem, Olsen and Merwin conclude that since

> . ..the concept of "quality of life" has no commonly accepted meaning, beyond the vague notion of the "general welfare".,. perhaps the best we can do is to note that all conceptualizations of "quality of life" refer in some way or another to what people think is important. In short (a) whatever contributes to the quality of life of a population of people is ultimately determined by them, not by elites or experts of any kind, and (b) people's notion of life quality is thoroughly infused with normative values concerning what is good and right in life. Hence there is probably no point in

> trying to construct a single definitive concept of "quality of life" since its meaning is highly relative and valuative, [26]

In other words, quality of life has to be community-based and participatively determined.

Additional conceptual frameworks have been advanced by various researchers and practitioners in the social impact field[27] (a number of these are discussed in Chapter 4). All agree, however, that social science theory has an important contribution to make to planning and decision-making.

SIA and Decision-Making

Social impact assessment, according to its advocates, can sensitize key actors to conditions and relationships that otherwise might not be recognized. It can give them a better understanding of how social systems function. And it can assist them in determining what variables to consider, how they are related, and what constitute "acceptable" magnitudes of impact.[28]

The usual assessment of environmental and economic impacts (with **environmental** probably defined to include "social") is not equivalent to a proper consideration of social impacts, the argument continues. Much more may be involved than pollution, employment, municipal services and aesthetics – the impacts that commonly comprise the **socioeconomic@* section of an environmental impact study. The consequences of a project for personal self-esteem and security, community traditions and lifestyles, vital social institutions, and cultural norms and values may be less visible and more difficult to get hold of or quantify than impacts on natural systems. In the longer run, however, such social impacts could be more important, and in the short run they are often at the root of public concern and opposition.

On the other hand, without an organizing conceptual framework a social impact study is likely to be little more than a cursory overview of census data, an anecdotal history of affected groups and individuals, a collection of narrow cost-benefit calculations, or weak conjecture about the significance of selected social trends, so the argument goes, Such studies, to-day's norm, are easy targets for criticism, lack credibility, and serve the decision-maker poorly.

Cortese and Jones, in a study of energy developments and boom towns, take this critique further by suggesting that superficial diagnosis of the social implications of such projects may lead to mitigative actions that make the situation worse rather than better (donfirming Forrester's contention that complex systems tend to be counter-intuitive):

> Such changes are not seriously mediated by providing more "adequate" housing, by "professionalizing" the police department or by building a mental health center. Such solutions are, in fact, parts of the problem. That is, such innovations add to the process of increasing anonymity, differentiation, bureaucratization, centralization, impersonalization, specialization and orientation of local community units toward extra-community systems.[29]

An additional point is made. Tending to be overlooked now is a thorough consideration of the social implications of improved environmental quality. According to critics of the environmental movement it is fallacious to assume that environmental benefits can be simply equated with social benefits. Environmental improvements can be regressive in their distributive effects, as Kreiger argues:

> In trying to improve the environment we are most likely to increase social disparities... The unrealized side-costs of environmental improvement are substantial... By observing the interaction of environmental quality programs with poor people, we might come to the conclusion that pollution is good and environmental quality programs are bad.[30]

Consideration of environmental quality, therefore, ought to go hand in hand with consideration of social equity; "Each pursued alone... is likely to be at the expense of the other".[31] Rigorous environmental impact assessment should be counter-balanced by equally rigorous social impact assessment. On the other hand, making visible what has heretofore been hidden may be far more radical (and so, far more resisted) than SIA proponents imagine. Ophuls maintains, "One of the characteristic features of the invisible hand is that the working of the economic process are largely concealed... Capitalism is thus an economic system founded on hidden social costs, in which development... would not have occurred if all the costs had been counted in advance".[32] Limits to SIA are built into the social system itself.

'Even when they are pursuing a modest level of SIA, however, those pressing for its application feel themselves to be in a disadvantaged position, much the same as environmental professionals were before EIA became part of public policy. Lacking a clear mandate, social scientists are unable to compete effectively with others who influence policy formulators, project planners and decision-makers. A sociologist sums up this frustration:

> While it has been demonstrated that planned change programs have disruptive influences within affected groups, seldom are the social costs given much consideration in the decision-making relative to determining whether or not a project will be implemented. Agencies continue to plan and implement large-scale programs without comprehensive research relative to the social consequences of their actions. The change agencies are acutely aware of the impact of a planned project upon some species of wildlife, but social groups appear to be of little consequence. Perhaps it will be necessary for generic man to be added to the endangered species list before good, empirical social impact assessment will be forthcoming and incorporated into development planning.33

In summary, then, the pro-SIA position responds to a critique of public decision processes that are seen to display some serious shortcomings:

- The tendency of proponents and regulators to be oriented primarily toward "policy" and broadly defined social needs, in disregard of the effects of specific actions on individuals, groups and organizations, communities and institutions. The assumption is that the benefits of proposed actions generally outweigh any social costs (any left over are the price of progress or the responsibility of others) – otherwise why would there be such policies? A related criticism is that too little feedback exists between policies and the specific effects they create.
- The overlooking of deeper structural aspects of community and social life not readily apparent to the untrained eye (the existence and functioning of an ecological system similarly may not enter the awareness of the amateur naturalist).
- The failure of planning and impact assessment processes to expose all of the concerns in an affected area or to predict future social effects.
- The lack of consideration of distributive effects of projects, which makes them prone to exacerbating the disparities within society.
- And finally, the failure of proponents and decision-makers to address critical questions of responsibility and accountability for social effects that subsequently arise. Reducing such "externalities" was a basic reason for introducing environmental impact assessment in the first place.

Improving the understanding of processes of social change and community development, of culture and social well-being, and of other social phenomena, therefore, and incorporating that

understanding in project planning and decision-making, are seen as worthwhile objectives, urgently in need of attention. They are worthwhile, however, not just to give more than superficial treatment to the adverse effects of development on people and their communities, or to produce decisions that are more equitable. Another compelling rationale is to prevent essential projects from being unduly delayed or denied by public concern that otherwise might have been alleviated by a style of decision-making enlightened by social impact assessment and public participation.

That does not minimize the major difficulties that confront the advancement of the SIA field. It may be compared with environmental impact assessment. Whereas EIA (in the U.S.) grew out of a popular consensus on environmental problems, there exists today little public or political consensus on social problems. EIA was accompanied by a public and a professional language; SIA is not. Environmental problems such as pollution could be evaluated against established standards (or at least an accepted approach could be applied); not so for social problems. Agencies existed or could be established (Departments of the Environment, for example) to deal with environmental problems; responsibility for social problems is far less clear and the public mood does not favour the creating of new public agencies especially for "social" programs. Given all this ambiguity and lack of support, the tendency in the American experience has been to piggyback SIA onto EIA and to adopt procedural solutions such as public participation in minimal forms. In Canada, however, public participation (discussed below) is less a "natural" component of government than in the United States, and Canadians lack the access American citizens have to information and to the courts. Participative solutions in Canada often give the distinct impression of tokenism. For this reason people tend to distrust them, assuming (as has often been said in public hearings) that the decisions have already been made. All of this adds to the problem of improving SIA practice,

SIA and its Critics

Critics of social impact assessment are not convinced that it warrants being treated as though it were a mature field. Some critics maintain that SIA is effectively non-existent, a collection of largely untested concepts and proposed methods; at best the field is still in the early stages of development. "The existingcompendiumof [social science-) theory, analysis and interpretation of data.,, is a relatively weak endeavour when compared to the epistemological basis of natural and even economic studies".[34] Others believe that more can be achieved by making improvements to conventional economic, environmental and land use studies.than by inventing a new basis for project assessment.

There is a more basic crticism. Unlike the environmental sciences, much of the research in the social sciences has been basic rather than applied. The result is a relatively weak linkage between the problems defined by social science research and the impact -assessment problems faced by project decision-makers. Cortese and Jones, for example, found:

> Many of those working in social impact assessment have looked to the literature on the sociology of modernization but have had little success in finding much useful information on the transition process itself. Also the literature in human ecology, which still holds theoretical promise for this area, has been found lacking in applicable research findings.35

Social science theory, from this perspective, may be able to provide some useful insights into social phenomenon such asinstitutional change, alienation and anomie, individual and group behaviour, community networks and so on. But it is generally ill-suited to the analytic and predictive needs of impact assessment. The poor quality of SIA studies, therefore, is less attributable to lack of application of what is known in the social sciences than to the inapplicability of this knowledge in the first place, it is argued.

A final problem was expressed by a senior U.S. official interviewed during this study. "Social impacts are merely politics", he maintains. That is, the deeper unsolved issues that inevitably arise from a well-done social impact study belong in the political arena (a view that is elaborated in Chapter 5). This attitude, favoured by politicians and common among civil servants who advise and influence them, appears to offer little room for a new field that seeks to provide a more informed basis but not a substitute for political decisions.

For some these arguments will strike a responsive chord; others will see them as a cursory dismissal of serious efforts to address pressing problems. The uninitiated observer may suspect that the debate between the proponents and opponents of SIA is little more than a skirmish among competing disciplines and professions. On one side are various social scientists, long excluded from the public decision-making arena, attempting to legitimize their approach to project evaluation and gain the recognition they feel their knowledge inputs deserve. On the other side are project planners, designers and managers who already consider themselves to be taking social issues into account and fully capable of handling public concerns. Also on this side are advisors, chiefly scientists and professionals from disciplines that underplay the social dimension, who regard the new inputs with barely disguised disdain, There may even be some environmentalists who a few years ago were also on the outside looking in and who today see social scientists crashing their party. None of this group is anxious to give up any professional or disciplinary territory.

A further complication is the existence of several alternate strategies – other solutions to the basic problems to which SIA responds – make it possible to avoid dealing directly with the new field,

Other Strategies

Agencies whose projects have been delayed or blocked by public opposition may be tempted to attribute "people problems** that arise prior to or during impact assessment to inadequate information to, consultations with or involvement of individuals and groups affected by their projects. Defining the problem in this way leads to solutions other than SIA.

Improved communication with the affected community is one. Its underlying assumption is that public concern and opposition are the result of ignorance and misinformation which, if corrected ("education is the selective relief of ignorance"), will produce sufficient public support to enable the project to proceed. Enlightened proponent agencies take responsibility not only for communicating information about their projects but also for doing this in a manner that reduces misinterpretation by the receivers.

Public relations is another solution. Here the emphasis is on the publicimage of the project and of its sponsoring agency. PR probably is always present to some degree, on the part of all actors. A full-scale PR approach may be essential when the proponent has a poor track record on environmental quality and/or in dealing with affected publics. But generally it primarily serves the interests of the proponent.

Public participation is a third solution, often encompassing the previous two but going further to involve, in the planning and assessment of a project, those who will be directly affected by it.[36] Participation (discussed further in the next section) can range across a wide continuum from tokenism and manipulation to community control, with a matching spectrum of methods.

Each of these solutions, or combinations of them, could be seen as complementary rather than as alternatives to social impact assessment. On their own, however, they are likely to be inadequate. For example, relying on public participation to disclose social impacts assumes that the people affected can define these impacts; it overlooks the difficulty most people have in understanding and visualizing future change or detecting the subtler effects (such as gradual loss of a way of life). Similarly, a group or a community anxious to obtain the short-term benefits of a project may too easily rationalize away its adverse longer-term consequences. Furthermore, standard participative exercises do not reach and involve certain groups in the local population, often the most disadvantaged or most vulnerable to sudden social change. They may even suppress some views, if the issue is controversial.

A further alternative to SIA is to build social considerations more prominently into the early stages of project planning, and to follow up project implementation with monitoring and review processes that catch and are able to deal with unforeseen social impacts. This approach, discussed later in this report, makes good sense. In fact it was and remains a basic objective of environmental impact assessment – one that appears to be enjoying a fair degree of success.[37] Worth noting from the EIA experience, however, is that it took the @*action-forcing mechanism" of NEPA to bring about more environmentally oriented project planning: it is a result of, not a substitute for environmental impact assessment. The same likely can be said for social impact assessment.

Among the implications of the state-of -the-art of SIA for agencies with responsibility for or involvement in assessment processes, two stand out: difficulty in avoiding explicit consideration of social impacts; and problems in determining in specific cases whether social impacts can be adequately assessed and reviewed and by whom. The next section examines these problems more closely in the context in which they arise, the conduct of social impact studies.

Chapter 4

The Conduct of Social Impact Studies

The previous section examined "substantive" frameworks that influence the content of social impact studies. No consensus exists on which set of concepts ought to underpin such studies. There is, however, general agreement on how they ought to be conducted and on the "procedural" or "methodological" framework in social impact assessment.

This chapter describes and critically reviews the four-part methodological framework, borrowed from EIA, that is in common use among SIA practitioners. Several alternatives, responding to practical concerns about the framework,are also discussed briefly.

The Procedural Framework

The methodological approach generally accepted in the SIA field has been adapted from environmental impact assessment. Four conceptually distinct steps (or analytic functions) comprise the EIA framework: identification, prediction, assessment and evaluation. Table 6 compares these steps with the modified form they have taken in social impact assessment: profiling, projection, assessment and evaluation.

Experience in the field has revealed some weaknesses in the modified framework and its validity is increasingly being questioned. SIA practitioners are beginning to look to their own emerging field and the social problems it addresses as the source of methods for assessing social impacts and criteria for judging the results. At present, however, the framework still dominates SIA practise.

Table 7
Steps in Impact Assessment

Methodological Framework For Environmental Impact Assessment	Methodological Framework For Social Impact Assessment
Identify the full range of environmental features and processes likely to be affected by the proposed project or its alternatives: establish the "before" condition and current trends.	Profile the existing social conditions in the area likely to be affected by the proposed project or its alternative& establish the "before" conditions, current trends and concerns.
Predict the magnitude, spatial dimensions and probability of potential environmental modifications drawing attention to direct and indirect effects and primary and secondary effects, in the immediate area and beyond.	Project the social changes that are likely to occur, drawing attention to the distribution of expected changes among the people affected by the project and its alternatives.
Assess the relative importance of the predicted effects, taking into account the current condition and the future condition that would result in any case as well as possible mitigative measures.	Assess the relative importance of the expected changes for each of the groups affected taking into account social conditions they now experience, future social conditions in any case, and the future social condition they would prefer, also taking into account possible mitigative measures.
Evaluate the overall acceptability or "impact" of the proposed project and each of its alternatives.	Evaluate the overall acceptability or "impact" of the proposed project and each of its alternatives.

The SIA framework and principles guiding its application are discussed next, step by step. Examples of methods and techniques now used indicate where the field is at. Near the end of the section, the framework's weaknesses are reviewed and some alternatives are presented.

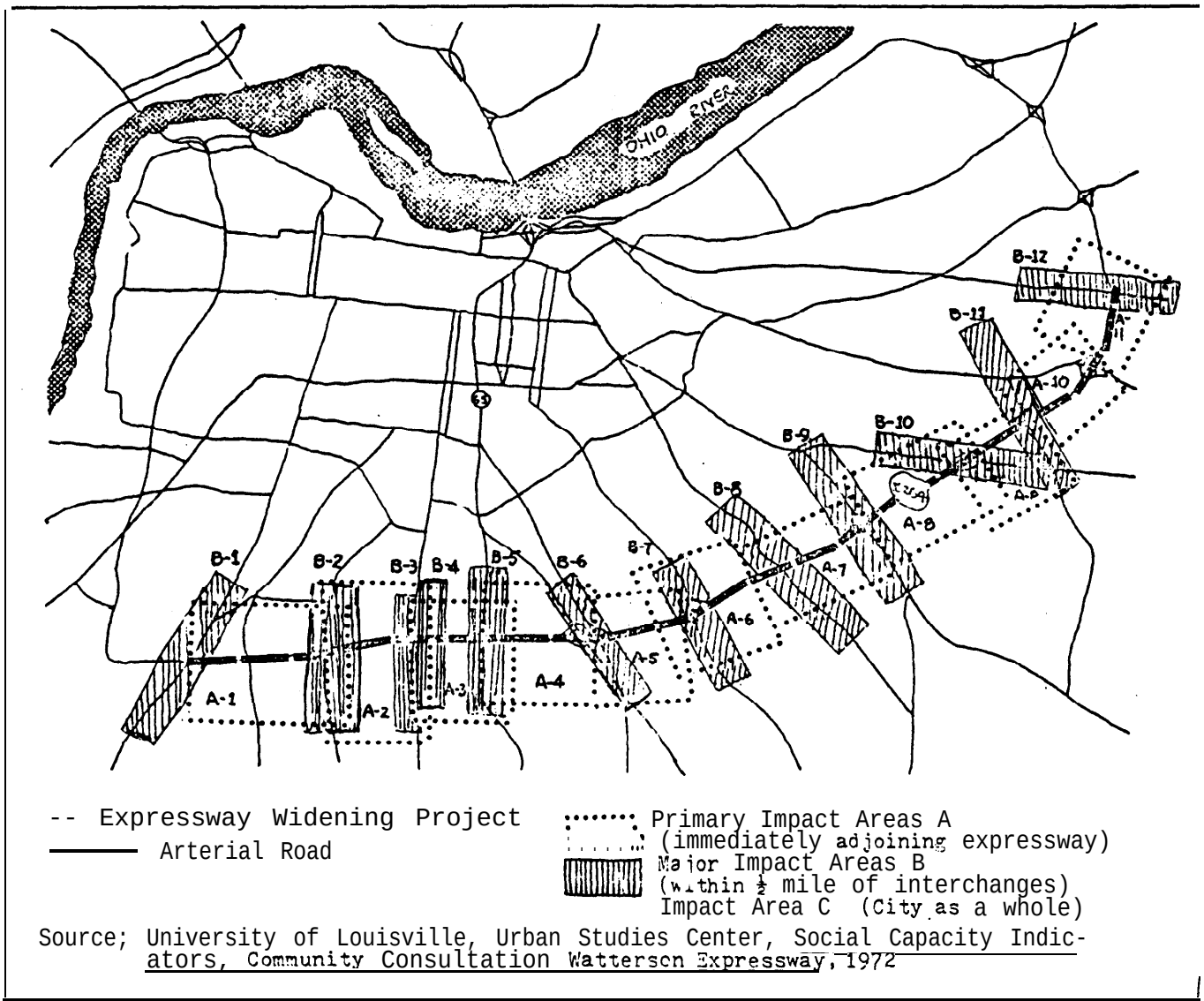
Profiling

To assess the potential social impact of a proposed project it is first necessary to describe the initial or current condition of the area likely to be affected. Profiling should establish baseline information which the assessor can use to ascertain what difference the project would make to, among other things, the lives of the people it affects. Analytic tasks involved include: 1. selecting boundaries for the impact study area and 2. determining what aspects of the social setting should be described. The manner in which these tasks are conducted conditions subsequent phases of the social impact study. In this sense, profiling sets the limits for projecting, assessing and evaluating impacts.

Sometimes impact area boundaries are set using simple rules of thumb – e.g., taking the commutershed of the construction workforce when the project is a large-scale power generating station, or the city limits if the main objective of the impact study is to provide a data base for negotiating financial compensation to the municipality for impacts on its public services and facilities. The more common approach, however, is to define impact area boundaries to coincide with the proposed project's "sphere of influence", Preliminary identification of the project's potential impacts and affected interests is used to determine the limits of the area to be studied. For example, in an examination of a proposed expressway in Louisville, Kentucky, three zones of influence were identified (Figure 9): one parallel to the highway, as wide as the likely range of attenuation of noise and vibration; one a half-mile wide surrounding each interchange, reflecting the expressway% potential economic and developmental influence; and one coinciding with the municipal boundaries, to indicate impacts on the community as a whole.[1] The impact assessors also acknowledged two broad categories of affected community interests: those in "soft" communities which could sustain most easily the changes caused by the expressway; and

those in "hard" communities (such as low-income families and the elderly) which would have more difficulity adapting to the project's impacts.

Figure 9
Impact Areas for a Proposed Expressway Expansion, Louisville, Kentucky



Source; University of Louisville, Urban Studies Center, Social Capacity Indicators, Community Consultation Watterson Expressway, 1972

Once impact area boundaries have been established, the assessor has to decide which social variables to take into account. Two broad principles appear to be widely accepted. First, all levels of "society" should be addressed; that is, the social impact study should examine the project's implications for

individuals, groups, organizations, and communities.[2] And second, social impacts should cover the full range of social consequences, not just those linked to environmental quality or to economic gains and losses.[3]

Various approaches, each with advantages and disadvantages, are taken to defining the social variables to be profiled. Substantive frameworks of the kind discussed in Chapter 3 could guide this selection. They have not often been used for this purpose, however,[4] perhaps because those who typically formulate concepts and methods and those who typically prepare impact statements tend to be different groups with different interests.[5] Instead practitioners tend to use shot-gun and checklist approaches. among others.

1. Shot-gun approach. As the label implies, this method involves ad hoc selection of every social variable or community characteristic that seems appropriate. Two concerns common to environmental and social impact assessment are simultaneously satisfied: the need for comprehensiveness, ensuring that all possible impacts have been considered; and the need for objectivity, removing bias from the decisions on which impacts to examine.

A well-known U.S. case, the impact study for the new community of Cedar-Riverside, prepared by the U.S.Department of Housing and Urban Development, exemplifies the shot-gun approach.[6] The proposed community was planned to cover 100 of 336 acres of an urban renewal area in central Minneapolis. Blighted land uses were to be replaced with five residential neighbourhoods totaling 13,000 dwelling units with a combined population of 25-30,000. Guided mainly by common sense, a group of experts assembled an array of 43 variables in four categories – urban systems, urban landscape, natural systems and social systems (Table 8) – aimed at ensuring that all conceivable factors were included. Each factor was then profiled in turn.

Table 8
Profile Factors, Cedar-Riverside EIS, Kinneapolis

Category	Factor	Category	Factor
A. Urban Systems	population density	C. Natural Systems	air quality
	housing		noise
	energy		water quality
	police		terrain
	fire		vegetation
	education		wildlife
	relocation		land use
	public health		
	water	D. Social' Systems	socio-economic
	sewage		economic and social problems
	surface drainage		citizen participation
	flood control		social facilities and services
	solid waste		efforts to avoid areas of friction
	street cleaning		child development
	employment		social and psychological effects of hi-rise
	public transit		historical preservation
	vehicular-circulation		
	parking		
	bicycle		
	pedestrian		
	open space and recreation		
B. Urban Landscape	design concept		
	views and vistas		
	height of structures		
	landscaping		
	lighting		
	utilities		

Source: U.S. Dept. of Housing and Urban Development, Draft Environmental Impact Statement on the New Community of Cedar-Riverside, Minneapolis (Washington, DC: HUD, 1974)

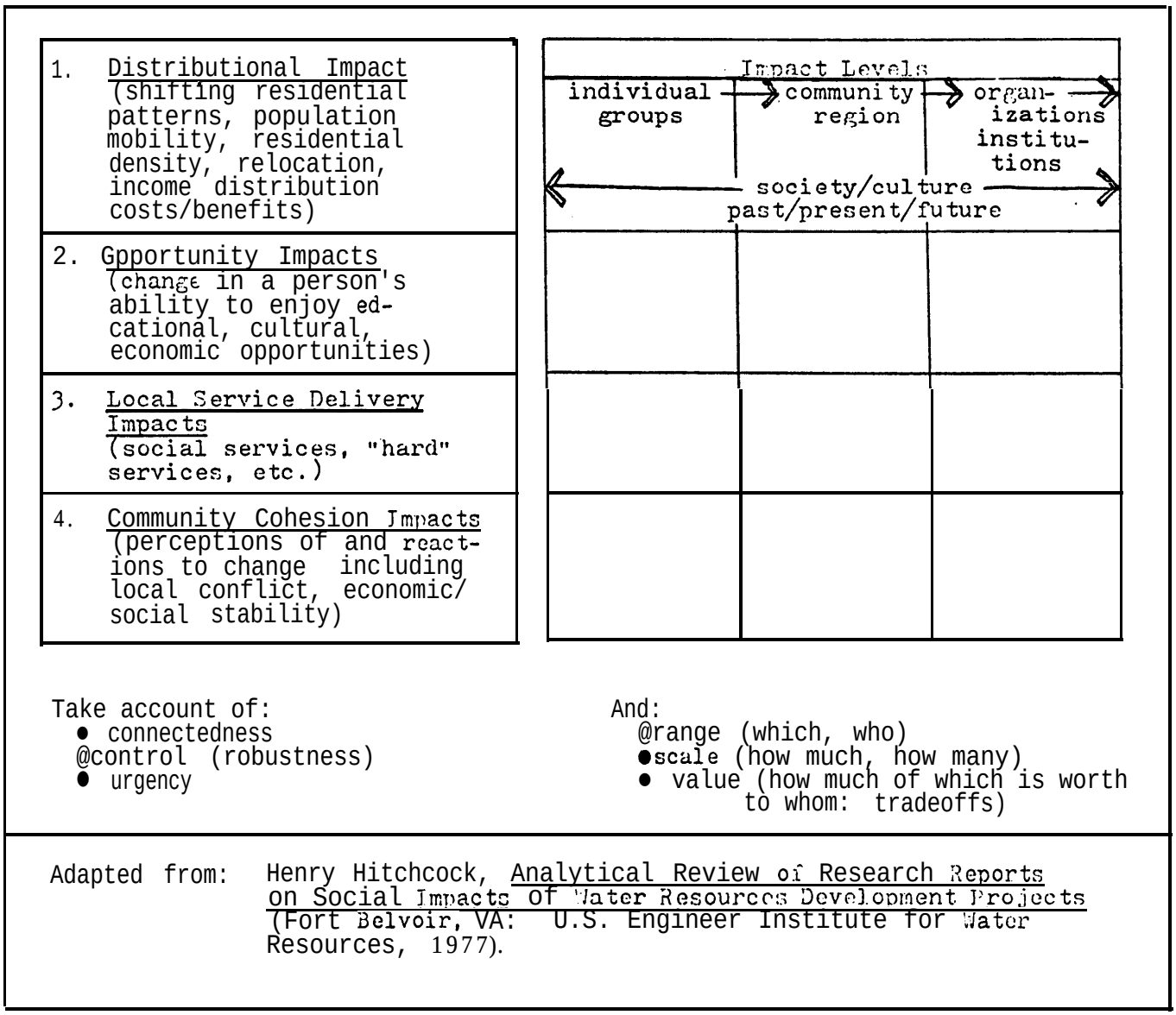
The shot-gun approach has several drawbacks. It lacks rigour and therefore contributes little to explanations of cause-effect, it can be quite time-consuming, and it tends to create far more variety than the impact assessors or planners can handle.[7] Studies resulting from shot-gun profiles produce masses of information, most of it in retrospect unnecessary for planning and decision purposes. Units of measure vary and no indication is given of relationships among factors or of their relative importance.

To minimize these problems SIA practitioners sometimes modify the shot-gun approach by subjecting the long list of social factors to public or peer review. They then assign relative weights to each factor prior to profiling. In this way, "although some attention would be given to nearly every socioeconomic aspect imaginable, only those factors of greatest community concern would be dealt with in the final assessment?[8]

2. The social impact checklist approach involves listing the proposed project's potential impacts (such as noise, displacement of residents, secondary economic development) and then determining what characteristics of the affected area should be described (e.g., ambient noise levels, attachment to place, existing land use and related goals and objectives). Only those social variables explicitly related to the selected impacts are profiled. This method is most often used when the social consequences of the class of project in question are well documented and easily identified. Transportation, water resource and energy projects fall into this category.

Over the last 10 years several social impact checklists have been constructed. Hitchcock, for example, reviewed research on the social impacts of water resources development projects and identified 21 key impacts in four categories (Figure 10); adding impact levels and a time frame enriched his framework.

Figure 10
Social Impacts of Water Resources Development Projects



Adapted from: Henry Hitchcock, Analytical Review of Research Reports on Social Impacts of Water Resources Development Projects (Fort Belvoir, VA: U.S. Engineer Institute for Water Resources, 1977).

Finsterbusch devised a checklist of 83 social impacts, in eight categories, for use in assessing highway projects (Table 9). And Susskind and O'Hare, in a study of energy projects, singled out eight main socioeconomic components of the boom-town problem (Table 10).

Table 9
Checklist of Social Impacts of Highway Locations

Category	Social Impact
Displacement and Removal of Residents	a. Economic Impacts on Displacees:
	New housing costs and compensation
	Mortgage availability
	Moving expenses
	Changes in transp. costs
	b. Social/Psychological Impacts on Displacees
	Anxious anticipation
	Search time, inconvenience
	Disrupted social relationships
	Displacement from familiar surroundings
	End of habitual behaviour
	Relationship with relocation personnel
	c. Housing Changes for Displacees:
	Renter-to-owner, owner-to-renter
	Type of housing
	Qualitative change
	d. Impact of Residential Displacement on Neighbourhood
	Lost customers, members, etc.
	Increased distances to friends, etc.
	Property deterioration, reduced neighb. attractiveness
	Tighter housing market
Acquisition of Non-Residential Properties	a. Displacement of Businesses:
	Difficulty obtaining site
	Moving expenses
	Cost of relocation
	Loss of marginal business
	b. Removal of Neighb. Resources:
	Lost parks; open space
	Increased distance to facilities
	Loss of nearby services
	Increased distance to services
	c. Displacement of Places of Employment:
	Increased transp. costs
	Increased commuting time
	Lost jobs
	Change of jobs
Proximity Effects	a. Effects on Habitat:
	Noise, vibration, interference
	Construction
	Air pollution
	Spoiled view
	b. Highway Externalities:
	Insulation, soundproofing costs
	Air conditioning
	Fencing, landscaping
	Increased maintenance, housework
	c. Effects on Residents:
	Safety
	Construction inconveniences
	Construction business, employment
	d. Effects on Business, Services, etc.
	Changed visibility
	Increased noise, air pollution
	Asthetic effects
	Decreased business, service
	Lost business on previous major routes

Category	Social Impact
Accessibility Effects	a. Increased Opportunities for Residents:
	Employment
	Schooling
	Shopping, services
	Recreation, entertainment
	b. Increased Convenience for Residents:
	Quicker commuting
	Easier socializing
	c. Invasion by Outsiders:
	Crowded facilities
	Competition
	Possible crime, vandalism
Barrier Effects	Pedestrian deprivation
	Neighbourhood division
	Hindrance to emergency services
	Neighbourhood isolation
Additional Impacts on Neighborhood	a. Change in Land Value, User Zoning changes, etc.
	Reduced property values
	b. New Traffic Patterns:
	Changed service areas
	Changed neighb. boundaries
	Changed social networks
	Increased traffic density
	c. Community-characteristic Changes:
	Integration vs. conflict
	Residential stability
	Population density, distribution
	Community plans, goals
	Private plans, goals
	Population characteristics
	d. Effects on Tax Revenues and Expenditures:
	Transit systems
	Political participation
User Benefit	Travel time, fuel consumption
	Safety
	Reduced driving strain
	Travel stimulated
Pre-Acquisition Changes	Reduced values of properties
	Reduced maintenance, etc.
	Increased motivation to move out
	Real estate speculation
	Groups formed in opposition
	Political influence exerted

Source: Kurt Finsterbusch, A Methodology for Social Impact Assessment of Highway Locations, (Brooklandville, MD: Maryland State Highway Administration, 1976), pp. 10-13.

Table 10
Socioeconomic Components of the Boomtown Problem

Social Disruptions. Increased rates of alcoholism, drug abuse, mental illness, divorce and juvenile delinquency, especially among long-time residents, frequently accompany the sudden changes in population mix and patterns of everyday life.

Public Service Needs. In the period of rapid growth, services become overburdened or unavailable to some groups. If the community builds the required services in advance of the expected boom, the costs in the form of increased tax rates have to be borne by those who now live there.

Shortage of Private Goods and Services. The private market rarely keeps pace with the demand for goods and services, especially housing.

Infiation. Excess demand triggers inflation in prices, wages and rents, leading to hardships for senior citizens and others on fixedincomes.

Revenue Shortfalls. Even though growth expands sales and property tax bases, revenues increase more slowly than costs in the short run due to (a) delays between the time development begins and property or sales tax revenues are realized, (b) delays in raising capital fcr constructing and improving public facilities, (c) capital needs beyond local government's legal borrowing capacity, and (d) location of high tax-yielding properties outside the communities hosting the' newcomers, with resulting public costs.

Resources Lost to Cther Uses. Industry and its workers are notably consumtive of three resources needed by the agricultural economy: water, land and labour.

Aesthetic Deterioration. Boomtown developments tend to sacrifice amenity to economy and ease of construction.

Fundamental Change. An important cost of boomtown development borne by the original residents of the community has nothing to do with conventional indicators of stress or inadequacy since it results from the change itself rather than what the town changes to. When development occurs the appearance, social structure, friendship patterns, style of life, and nearly everything else about the community changes, and the community that supported the residents disappears.

Source: Lawrence Susskind and Michael O'Hare, Managing the Social and Economic Impacts of Energy Development: Strategies for Facility Siting and Compensating Impacted Communities and Individuals. Summary Report. Phase 1 of the MIT Energy Impact Project (Cambridge, MA: Massachusetts Institute of Technology, Energy Impacts Project, Dec. 1977),pp.8-9.

After formulating a checklist of potential impacts the assessor should be able to determine what baseline data are needed to establish whether these impacts are likely to occur in a particular case and, if so, how severe they will be. An empirically derived impact checklist, compared with the shot-gun method,more rigorously focuses the collection of data on potential impact problems. This places the assessor on firmer ground when deciding which social variables to consider and which to ignore. Shortcomings of the checklist method include: no single checklist is universally endorsed or even widely applied (as the Leopold matrix was in EIA); and criteria for determining which list is best suited to a particular situation are unclear.

Projecting

Anticipating the social consequences of the proposed project comprises -the second step in the familiar SIA methodological framework. With baseline data in hand the assessor determines which impacts are likely to occur in this case, should the project or its alternatives proceed, as well as who would be affected, in what way and for how long.

Two problems that complicate social impact forecasting are the elusive nature of the cause-effect linkages which underlie social change and the tendency for social impacts to be both "perceived" and "real". Recognizing these problems, SIA methodologists have adjusted methods for impact prediction, drawn from EIA, to reflect the nature of social systems. Rather than viewing projects as causing discrete social impacts, for example, Baur and Wolf recommend that social impacts be regarded as the results of a "complex process of interchange between many persons, groups, organizations and publics".[9] Wolf elaborates:

> Instead of a simple cause-effect model it is more in accord with the facts to use an interactive model based on an holistic

> approach to the situation. Some may prefer to call it a system model: but it is a very open, dynamic system. The approach is holistic in the sense that it tries to take account of multiple factors within and from outside the affected locality. Furthermore, the agency or corporation that is planning the project should be viewed as part of the total social situation. It is a subsystem of national or regional scope which impinges on other subsystems within the area affected by the proposed project. Their interaction gives rise to new subsystems in the form of social movements and the groups instigated by the agency's public participation program.
>
> What the interactive approach undertakes, then, is to "deresidualize" social impacts and to promote them to a position of causal impartance.[10]

Stanford Research Institute, in a study for the U.S. Army Engineer Institute for Water Resources, identified 73 forecasting techniques that have been or could be used in estimating future social conditions (Table 11). The techniques were grouped into three broad categories:

1. Time series and projections which deal principally with methods for trend forecasting, essential to identifying and assessing current and potential problems.
2. Models and simulations which deal principally with methods for gauging interactions among events and hence are essential for measuring the consequences of actions.
3. Qualitative and holistic methods which deal principally with methods of forecasting the broad context of the future, including societal alternatives and patterns of values on -which normative judgments rest.

Table 11
Techniques for Estimating Future Social Conditions

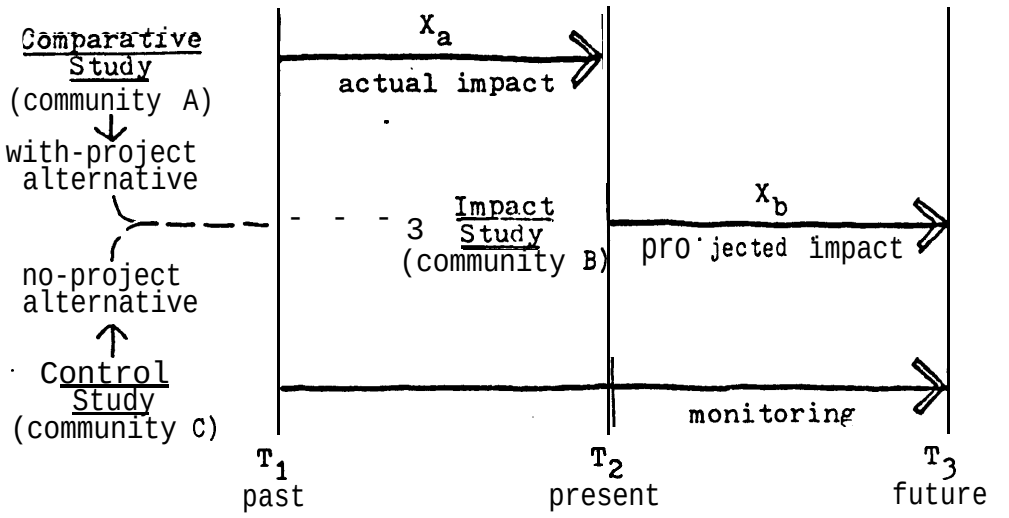
1. Cost-benefit analysis
2. Statistical models (Bayesian)
3. Marginal analysis
4. KSIM
5. Mission flow diagrams
6. Parameter analysis
7. Cross-impact analysis
8. Input-output analysis
9. World oil price simulation
10. Breakthroughs
11. Precursor event3
12. Econometric forecasting
13. Dynamic models
14. Structural models
15. Decision analysis
16. Morphological modeling
17. Decision matrices
18. Relevance trees
19. Theoretical limits and barriers
20. Analysis of industrial behaviour
21. Technological audit
22. Social trend analysis
23. Canonical trend variation
25. surprise-free projections
26. Social indicators
27. Leading indicators (economic)
28. Change signals monitoring
29. Critical factor3 analysis
30. Estimates of preference3
31. Subjective estimates of probability
32. Prediction of changeover point3
33. Amplitude-adjusted index
34. Diffusion index
35. Authority or "genius" forecasting
36. Surveys of intention or attitudes
37. Surveys of activities or unit3
38. Panels
39. Delphi
40. Psychographics or life style
41. Activities, interests, opinions
42. Life ways
43. Historical analogy
44. Alternative futures
45. Divergence mapping
46. Introspective forecasting
47. Utopias/dystopias
48. Nodes and mechanisms of change
49. Study of forces of change
50. Macrohistorical cycle
51. Cross-cultural comparisons
52. Synectics
53. Brainstorming
54. Bionics
55. Science fiction as forecasts
56. Exponential smoothing
57. Simple regression
58. Moving averages
59. Multiple regression
60. Growth curves
61. Envelope curves
62. Link-relative prediction
63. Box-Jenkins
64. Cycle analysis
65. Systems analysis
66. Risk analysis simulation
67. Contextual mapping
68. SRI Gulf energy models
69. Game3
70. Policy capture
71. Probabilistic forecasting
72. Normex forecasting
73. Substitution forecasting

Source: Arnold Mitchell, et al, Handbook of Forecasting Techniques (Fort Belvoir, V.A: U.S. Army Engineer Institute for Water Resources, 1975), pp.289-291.

So far, however, few systematic methods of social impact forecasting have been developed. One notable example is the method advanced by Burdge and Johnson.[11] Labeled "Diachronic Comparative Analysis", it represents a more rigorous and objective version of a method routinely used, though in a haphazard way, in planning studies.[12] Illustrated by Figure 11, the method involves

"matching" the potential social impact situation with a previous case and determining "if, given similare predevelopment conditions and similar resource development projects, the social impact of a completed development project in Community A can be generalized to and predictive of what will happen in Community B where development is planned?[13] The obvious prerequisite to the method's application is, as Wolf points out, "establishing and validating a criterion of sameness by which the predictive (social impact) and control (comparison) cases can be successfully matched."[14]

Figure 11
Time Dimensions of a Comparative Diachronic Study to Predict Social Impacts of Resource Development



Community A: a community similar to community B and with a similar project X_a in place

Community B: the location of the proposed project Xb

Community C: a community similar to B but with no project

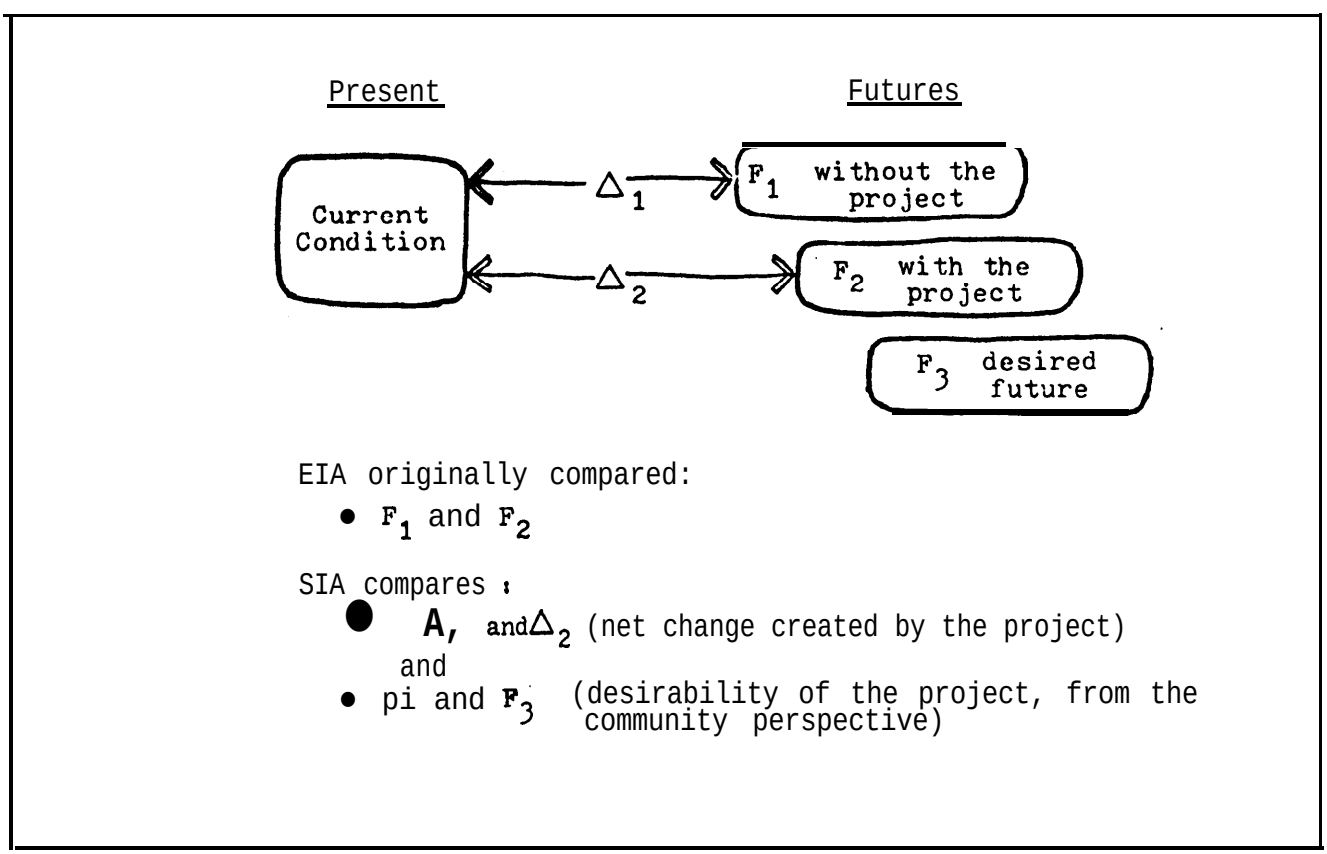
Adapted from: Rabel J. Burdge and Sue Johnson, "Sociocultural Aspects of the Effects of Resource Development," in Handbook for Environmental Planning: The Social Consequences of Environmental Change, ed. James McEvoy III and Thomas Dietz (New York: Wiley, 1977), p. 246

Assessing

This step involves a careful analysis of the projected impacts to discover their relative importance (i.e., to separate critical and non-critical changes) and to estimate the kinds of "social costs" that the project would create, doing this in as "technically neutral" a manner as possible. At this stage the assessor begins to specify what difference the project would make or, as Duncan and Jones put it, "So "what? and Who cares?" Deferred to the next step is explicit consideration of values, that is,whether the changes are "good" or "bad" or better/worse than the existing condition.

Initially, in environmental impact assessment, "impacts" were defined simply as the difference between two forecasted futures – with and without the project (Figure 12). Though consistent with traditional cost-benefits analysis, this definition proved to be inadequate for impact assessment; forecasted futures were often too uncertain to provide a firm basis for assessment. Emphasis shifted to a comparison between baseline social conditions

Figure 12
Alternate Futures in Social Impact Assessment



and the future with or without the project. Social impact assessors further refined this approach by incorporating the desired future (i.e., the community's goals and aspirations) in the comparison. A complete assessment, therefore, determines the net effects that a project would likely have on individuals, groups, organizations/institutions and communities. This involves two comparisons (Figure 12): between the change brought by the project and the change that would occur in any case; and between the future brought by the project and the future(s) desired by the community.

The criteria used to estimate the "objective importance" of forecasted social consequences are still evolving. Many are borrowed from EIA and from economics. Duncan and Jones pinpoint nine measures of significance commonly used to interpret social effects?

@Magnitude: a large amount of change in one area has greater importance than a small amount of change.

●Universality:a change affecting a large number of people or geographic area has greater potential significance than an impact on only a few people or a small area.

● Duration: an impact that will last a long period of time is likely to have greater significance than one lasting a short time.

●Number of impacts: a project with which a number of impacts are associated may be deemed more significant than one which has only a few effects.

*Cumulative impact: although the impact itself alone may be of minor importance, an impact which adds to a series of earlier impacts can become of great social concern.

- **Irreversibility:** effects that cannot be changed may be more important than effects that are capable of being mitigated or reversed through human intervention.

*Uniqueness: an impact that has not occurred in the area before may be considered important because it sets a precedent.

- Social vulnerability: an impact which adversely affects a group of people lacking the resources or skills to adjust to it may be considered more significant than a similar impact which acts on a group not socially vulnerable.

- Controversiality: an impact that stirs up public debate or concern probably requires greater attention than one that is not disruptive or divisive.

Other criteria[16] evident in social impact studies and in the literature of the field include costs of mitigation (direct dollar cost as well as hardship measures such as the availability of resources and opportunity costs), probability of impact occurrence, risks associated with impacts (the adverse effects of a nuclear power plant, for example, may involve low probability but. high risk) and "impact manageability". The latter criterion, referring to the capability to deal effectively with projected impacts, is a recent addition to the list, not yet widely applied. It questions an assumption that underlies mitigation proposals: that such measures will actually be implemented, i.e., that the potential for social impacts to be prevented or minimized by proponent, governmental or other responses will be realized in this case. An obvious example is the contention that secondary development and its effects will be controlled through land use planning and management. The theory is sound and the promise is difficult to challenge. But whether performance matches promise will depend on the willingness of elected representatives and the capabilities of appointed officials to

exercise the available powers; experience tells us that often it does not happen. Assessing the relative importance of projected impacts, therefore, requires a realistic appraisal of their manageability.

Irrespective of the criteria used, the majority of SIA practitioners support, as a procedural principle, the assessment of potential social conditions from the resident's point of view as well as from the professional's. According to Finsterbusch (among others) a social impact study should reveal what the changed situation means to those affected, how they perceive it and how they are likely to respond to it.

> Objective social conditions are observable and therefore measurable by quantitative indicators such as income, size of house, age of car and calories consumed per day. Quality of life assessments, however, should go beyond objective social conditions and ascertain the meaning of these conditions for the individual... Since it is nearly universal that people want more than less income, housing, friendships, acessibility, goods and services, health, safety, etc., objective information can determine the direction of change in individual quality of life. The interpretation of increases or decreases, however, depends upon the subjective states of the impacted individuals.[17]

This reaches into the final step, evaluation.

Evaluating

Placing values on the projected impacts, and determining the acceptability and overall impact of the project and its alternatives, comprises the final step in the SIA framework. By contrast the previous step clarifies the nature of the impacts and assists in pinpointing critical effects but it stops short of the explicit inclusion of "subjective" values.

Evaluation poses much the same problems in SIA as it does in EIA. A key issue is whether the assessor should take an active part in evaluating the project and making recommendations on possible courses of action. Some studies disclose impacts and discuss them fully but go no further. Gthers conform to the position articulated by Finsterbusch and Wolf:

> Policymakers must make decisions. Social impact assessments can provide the information necessary to increase the social benefits and reduce the social costs of these decisions. To be useful for decisions, however, SIAs must not only assess impacts but must also evaluate them.[18]

Such evaluation implies identifying key differences among alternatives, clarifying the significance of these differences and of the impacts, pinpointing tradeoffs, and ranking, weighting or weighing the alternatives. Totally objective, expert-based evaluation is recognized as being impossible and probably undesirable. Evaluation is necessarily quantititative and qualitative, objective and subjective.

> Some values are so widely adhered to that they are safe evaluative criteria. Examples are health, income, jobs, safety, housing... At the same time there is no consensus on the relative rankings of the various quality of life dimensions. Without being presumptuous, therefore, SIAs can indicate that various impacts are positive or negative because of the way that they affect the quality of life of people. But how can a SIA arrive at a total quality of life score for alternative policies? For aggregation the dimensions must be weighted, and the choice of weighting scheme is inevitably somewhat arbitrary. One procedure which has the merit of being relatively democratic is to ascertain the evaluations by the community and interested parties... The attitudes of groups, organizations and the general public should be reported in the SIA.[19]

The Framework Re-Examined

Taken together, the four steps — profiling, projecting, assessing and evaluating — constitute the accepted methodological framework for social impact assessment. Ever since it was first formally sketched out by C.P.Wolf in 1974, SIA theorists have struggled with the problem of how to make each step operational. Only recently have the framework and the criteria for adequacy that it implies been disputed.

Growing disenchantment is noticeable among methodologists and practitioners alike. Though "real time" experience with the framework is limited, questions are being asked about whether the analytic objectives set out for SIA are achievable. Not long ago critical reviews of practise focused on the failure of impact assessors to meet SIA's procedural requirements. Now a few critics are suggesting that the fault may lie with the theory behind these requirements. Three dubious assumptions in the recommended approach are singled out: that required methods exist, that social impacts can be predicted, and that guidelines and criteria are available for assessing their significance.

Methods. Critics argue that supporters of the SIA framework assume a greater availability of methods than is actually the case. Flynn notes:

> The general impression one gets by looking over bibliographies in this field is that the methodology of social impact assessment is well developed and needs only to be applied to the work at hand. But these titles and the claims they typically make in their introductions are misleading... The scope of SIA

> methods and their availability to writers of EIS has systematically been over-estimated... And several critical areas of social impact assessment are without a developed methodology.[20]

Two possibilities are cited. One is that the methods and techniques needed to profile, project, assess and evaluate social impacts are too specialized and therefore are available only to highly trained professionals. An example is the U.S. Department of Transportation's Social Impact Notebook which offered sophisticated techniques for assessing three effects of highway projects (community cohesion, availability of services and displacement of people): the Notebook proved unworkable at the field staff level, requiring the Department to develop a series of basic training programs, The second and more likely possibility is that the needed methods and techniques are not yet operational and therefore in effect not available. Flynn's lucid review of five handbooks and manuals, intended to help SIA writers and reviewers applying the framework, underscores this point:

> In their most recent guidelines (ER 1105-2-240, 10, Nov. 1975) the U.S. Amy Corps of Engineers require a cause and effect analysis of the impacts of proposed projects, including such social variables as community cohesion, displacement of people and aesthetic values. Using present-day methodology, some of these effects can be estimated; others cannot.
>
> The Environmental Impact Handbook (Burchell and Listokin 1975)... makes periodic reference to materials that might be helpful to the EIS writer, and it includes a useful bibliography. But beyond this there is no specific methodological help, and scant recognition of the complicated interrelatedness of dependent variables.
>
> [The recent report by] Burnham and others [A Technique for Environmental Decision Making Using Quantified Social and Aesthetic Values, 1974] is titled as if it filled the gap between guideline requirements and field work methods... The title of the report may mislead reviewers and authors of handbooks and guidelines into thinking that quantification of social and aesthetic variables has been achieved, so that all the EIS writer need do is apply the established methodology.

> In fact no such methodology exists and the guidelines are asking for a performance which cannot be produced.
>
> [In the] Social Assessment Manual: A Guide to the Preparation of the Social Well-Being Account ... the authors talk about quantified, objective indicators but present only discrete checklist items, and the only method of analysis suggested is subjective impressionism.
>
> The report by Vlachos and others, Social Impact Assessment: An Overview... does not deal with specific projects, concrete evidence, hard data, or with methods applicable to specific problems... instead of providing practical help to the EIS writer, the most practical suggestion it makes is that the Corps employ professional sociologists in order to compensate for the lack of good methods available for social impact assessment.21

Others have similarly exposed the field's basic methodological underdevelopment. Referring to the 73 social forecasting techniques identified by the Stanford Research Institute, Miller comments, "None has shown to be very powerful, however; most yield projections and conjectures when applied in societal estimates rather than true forecasts?[22] Cramer and others point out that futures research has tended to focus on trend analysis, ignoring underlying causal processes; the applicability of social forecasting techniques to SIA is therefore questionable since it is left to the assessor to discern cause-effect relationships and in particular to link the proposed project to projected social conditions..[23] Reflecting on the state of the art, Olsen and Mervin conclude that SIA methods leave a great deal to be desired:

> Thus far, the usual way of making these forecasts has been merely to project (usually on a linear basis) whatever trends were known to be occurring and then to add onto them the expected (or guessed or estimated) effects of the innovation. Both [the future with the project and the future without the project] have been at best crude estimates with little or no basis in empirical knowledge. Moreover, this cuurent practice does not take into account the ways in which one impact may affect others throughout the entire social system. Several methods,

> such as cross-impact forecasting... have been developed to identify these interrelated indirect impacts, but they rely heavily on subjective judgments by presumed experts.[24]

With time, SIA methods and techniques may improve to make the framework more workable (most of the foregoing criticisms are three to four years old). But this optimism could be missing an important point, spelled out by Peterson and Gemmel: "These are nice ideas, and research should continue in these directions. In the meantime – and there is likely to be a lot of 'meantime' – impacts will need to be assessed".[25] One U.S. official, reviewing social impact studies on a day-to-day basis, said bluntly, "SIA is mush? That is, social impacts are given broad-brush treatments that make it difficult to grapple with them, objective defensible analysis raises many problems, and numbers when used tend to mislead("Pseudo-scientic social data are open to misinterpretation', was how this practitioner put it). Faced with the inevitability of having to consider social impacts, that office's solution is to attempt to clarify and minimize the mushy area and to make sure that proponents at least disclose public concerns.

Predicting Impacts. The argument that techniques will improve assumes that social impacts are in fact predictable on a project-by-project basis. Those who'challenge this assumption question whether cause-effect linkages in dynamic social systems are knowable and whether social forecasts can ever be more than speculation.

For example, Dixon's report on Fairbanks raised concerns about the reliability of social impact forecasts.[26] Most of the social consequences predicted to accompany the Trans-Alaska Fipeline did not occur while many that were not anticipated did. To what extent can more sophisticated forecasting techniques be expected to improve this situation? The problem may involve more than devising techniques that match the complexity of social systems; it also requires development of the general knowledge as well

as the site-specific data about social processes that would make causal models operational. For many project/environment combinations the social consequences of planning, construction and operation are not known. The "boomtown" phenomenon, for example, is just beginning to be understood in terms that will make social impact predictions reasonably reliable.

A further complication is the considerable reliance of social impact assessment on subjective responses of those affected. Second-guessing how people will react to a project in place can be quite problematic and speculative.

Evaluating significance. Perhaps the most difficult 'aspect of SIA is deciding how significant projected social impacts are. Few accepted standards, criteria, guidelines or even rules of the thumb exist. Meanwhile, on the receiving end, small-scale social systems are often fluid – constantly adapting (as ecosystems do) in ways that cannot be foreseen. People are similarly resilient. Not enough is known about tolerance limits for various kinds and rates of change on various receptors. Normative issues arise; for example, how much change should a designated group be expected to bear in order that others may derive benefits (some of which return indirectly to the group)? Such questions have rarely been debated publicly. Compensation is the usual solution but it is quite limited and offered only under restricted conditions. The sincerity of project opponents is another issue, To what extent are their concerns "real" versus exaggerated, disguising self-interest? Perception is an equally troublesome problem. Even if the effects of a project can be proved innocuous, does a significant social impact still exist when a group of people perceive it to be so? To what extent do we acknowledge that each of us constructs our own reality, that it is real for us, and that acting on it may result in adverse social effects for us and others? [27]

Questions such as these, largely unanswerable but commonly

encountered in SIA, raise doubts not only about the applicability of evaluation methods borrowed from EIA but also about the feasibility of undertaking ambitious social impact assessments in the first place. In situations where the social impact is dramatic, such as the potential destruction of the traditional lifestyle of a native community or the forced relocation of a valuable agricultural community, the problem is less apparent than in the more common instances where change appears marginal but to some is traumatic and over time could accumulate into a major social problem (a high-rise low-income corridor in suburban Metro Toronto is a classic example).

Part of the evaluation problem'may be that in contrasting SIA with EIA the latter tends to be viewed unrealistically, seen more in terms of how it is supposed to be than how it is/while the emphasis in the former is incorrectly placed on evaluative methods. Problems of evaluation have not been solved in EIA either; they have been bypassed. For example, the methodological framework set out in textbooks calls for alternatives to be specified, tradeoffs to be identified, impacts to be weighted, residual impacts to be communicated to decision-makers, and informed choices to be made. Rarely does it happen this way. EISs are prepared by peoplewho work for proponents. The assessor's primary task is to identify impacts and demonstrate that they are either acceptable (not by the kind of site-specific evaluation implied in SIA but by reference to external criteria such as emission standards) or can be taken care of in an acceptable manner (improvements in project design, promised mitigative measures, subsequent regulatory processes, monitoring, and the assumption that problems encountered can be solved). Residual impact , therefore, are reduced to or near zero, easily outweighed on the judgment scale by the project's benefits (public hearing processes sometimes upset the balance). Sophisticated methods in (not of) impact assessment focus not on evaluation but on identification and prediction of specific impacts (such as the effects

of hydrogen fluoride on crops) that draw on esoteric fields (in this case, phytotoxicofogy).

If SIA is to learn from EIA,' overlooking the latter's weaknesses, attention might be turned to improving the ability to identify, predict and monitor specific kinds of impacts commonly encountered by and troublesome for decision-makers. Evaluation must then be dealt with explicitly, through political processes also improved (elaborated in Chapter 5). Other alternatives could be used where the four-part -framework for SIA is not feasible,

Alternatives to the Framework

Lack of confidence in the feasibility of the SIA methodological framework, and especially in the reliability of social impact prediction, has resulted in the use of alternate approaches. Three are discussed briefly here: the issue report, impact management and environmental mediation.

The U.S.Department of the Interior, for example, has concluded that its decision processes are often better served by separating out the SIA component from the 60-100 environmental impact statements prepared annually by the department.28 Social impacts are then addressed in an issue report which incorporates relevant findings from the EIS and the project's economic and technical feasibility studies. Prepared internally in consultation with project planners and field staff and accompanying the EIS, it is intended to provide decision-makers with an understanding of public concerns, potential social problems identified by the Department and other agencies, and social implications of undertaking the project. The underlying reasoning is that (a) social problems are properly resolved by elected decision-makers, not by those preparing environmental statements, and (b) social issues, if considered simultaneously with environmental issues

(the Department's primary concern), are liable to dominate them especially in the public hearing phase. Comprehensive social impact studies, integrated with the environmental impact studies, are undertaken only when the inquiry covers "the entire decision' (not just an environmental problem) or when the adequacy of the Department's EIS is likely to be challenged in court. In such cases,about 12 per year, a thorough compilation of social data is deemed necessary "to cover all legal bases".

The issue report approach is consistentwiththe new NEPA regulations, prepared by the U.S.Council on Environmental Quality,[29] which require federal agencies to restrict their consideration to the significant environmental issues rather than preparing encyclopedic impact statements. A shortcoming of the issue report approach, however, is that the separationof socioeconomic and natural environment effects may lead to omission of key impacts and to unnecessary duplication.

A second alternative to the accepted SIA approach can be termed social impact management. Greenall suggests that SIA be extended to include (and put the emphasis on) the process of managing the unanticipated consequences of development rather than focusing on assessing social impacts and evaluating alternatives.[30] Social impact forecasting, he argues, in most cases cannot be done; when it is attempted the results are often too unreliable to be used as a basis for evaluating alternatives. Control, not prediction, of impacts should be stressed. Greenall's perspective may derive in part from a study undertaken for the Polar Gas Project in 1977. Merrett conducted a thorough review of experience in assessing the socio-economic effects of northern pipeline projects and concluded that SIA could not be done there:

> ... the nature of the Northern Canadian region in relation to the current state of the art precludes the possibility of preparing a fully documented, statistically based, impact assessment. The major impacts will be essentially those which reflect on the process of socio-economic change with respect to the Inuit population. This is an area which cannot be assessed in a definitive manner. Generally acceptable techniques for assessing such impacts do not exist, basic data

for the Eastern Artic is not available and the work in both Alaska and Mackenzie Valley does no provide an adequate basis for making comparative assessments.[31]

The key social impact problem, Greenall maintains, is how to cope with or manage project-generated change. Defined in this way, social impact assessment would involve:

1. Determining which impacts are (a) totally manageable (by the proponent, the responsible governments or other parties), (b) partially manageable or capable of being influenced, and (c) unmanageable or unavoidable,

2. Identifying "control measures" that would have to put in place for effective impact management (e.g., community relations programs, advisory committees, monitoring programs., joint agreements); and

3. Identifying coping measures to assist the affected community in dealing with unavoidable impacts (e.g., provide compensation, assist relocation, construct and operate crisis centres, build in positive impacts such as new facilities).

Two drawbacks to this approach, Greenall acknowledges, are determining who should pay for control and coping measures (i.e., how much should the proponent be responsible for?) and defining the community impacted by the project (e.g., should it include the boomtown population?). It could also be added that monitoring, not mentioned by Greenall, is required to catch unforeseen and unforeseeable impacts especially those that occur later – which raises a further problem, how much later?

A variant on the impact management approach is used by Ontario Hydro when it plans, assesses, constructs and operates power generation facilities. A comprehensive profile is prepared of existing social and economic conditions in communities adjoining the site of a proposal facility (Table 12), as part of Hydro's Community Studies Program (Figure 13).

Table 12
Socioeconomic Profile, Coamuni **ty** Impact **Studies,** Ontario **Hydro**

Social Profile Factors

1.. Population:
total population by municipality
age/sex distribution
historical **growth trends**
birth and death rates
number, size and type of household

2. Employment:
employment by sector and sex
wage rates
median annual wage
unemployment by sector and sex

3. Economic Base:
area activity rate
number of employees by basic and non-basic industry
key basic and non-basic industries
local **industrial** and **commercial** growth rate
gross spending *in* retail and service sectors
participation rate

4. Housing and Property Values:
total **existing housing stock** by **tenure,** type and vacancy rate
total **existing housing** stock by **type, age,** condition and occupation
value of housing

5. Transportation and Communications:
type, size and condition of all **access** routes
distance ***and*** time to major urban centres
major local transportation mode

6. **Municipal** Services and **Facilities:**
water and **sewer** capacity
solid waste
utilities

7. Municipal Finances:
historical and **current** capital and operating **budgets**
current and per capita costs by function
debt capacity (Ontario **Municipal Board** evaluation and **borrowing**)
assessment data

8. **Education:**
schools, public and/or separate, primary, secondary, post-secondary, special **use** by trade, **type,** site, **staff,** location and attendance
availability and quality of **teachers**
school characteristics, **enrolment,** capacity, student/teacher ratio

9. Social **Services:**
government services (welfare, children's aid, day **care, legal** aid, private social services)
type of services offered
case loads

10. Recreation and Tourism:
amount of **income contributed** by **recreation** and **tourism**
local **recreational facilities,** **local parks, libraries, cinemas,** etc.
type of recreation

11. Regional Development/Community and **Regional Planning:**
Provincial planning and development policies
level of planning control (**Prov., regional, town, township,** etc.)
level of planning expertise

12. Labour Supply:
sex, age, skills, location
general labour **force type** (**full-time, seasonal, youth, retired,** out-migration)
deficiencies in local labour force

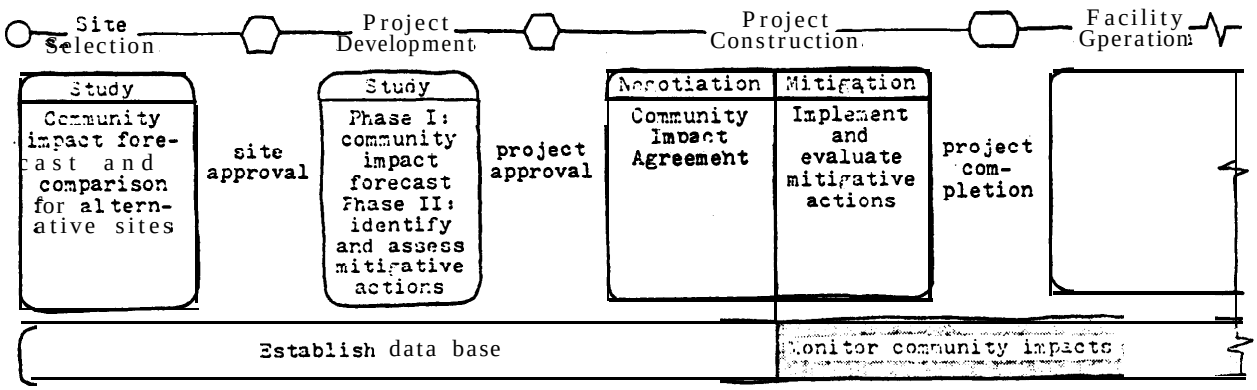
13. Lifestyle **and** Culture:
socioeconomic status **differences**
common **lifestyle patterns**
church contribu tionc to community life
cultural recogni tion to **special groups**

14. Social **Aspects:**
current **social** trends
community **cohesion**
social gratification

15. Health **and Safety:**
health **facilities** by type
number of facilities

Source: John H. Walker, Community Impact Agreements: An Approach to Mitigating Social and Community Impact of Power Stations on Communities. Toronto: Ontario Hydro, Route and Site Selection Division. Nov. 1978, pp. 5-9.

Figure 13
Community Studies Program, Ontario Hydro



Source: John H. Walker, An Approach to Mitigating Social and Community Impacts of Power Stations on Communities (Toronto: Ontario Hydro, Route and Site Selection Division, 1979)

Community impact planners then estimate the additional services and facilities that will be required when construction begins. These estimates serve as a basis for negotiating "community impact agreements" which establish Hydro's maximum financial liability for new services and facilities, the need for which resulted from its project. Community impact agreements with municipalities "are structured to protect the municipalities from costs resulting from community impacts and are designed to protect Ontario Kydro from unsubstantiated costs of community impact through an agreed upon program for monitoring". [32]

Three formal agreements have been signed so far, with the Town of Newcastle, the Township of Atikokan and the Township of Hope. Funds for community impact payments are organized into two accounts: Station A (hard services) and Station B (soft services). The seven-year Atikokan agreement, covering construction and operation of the first half of an 800 MW thermal generating station in Northwestern Gntario, is typical of the breakdown (Table 13).

Table 13
Financial Provisions of Atikokan Community Impact Agreement, Ontario Hydro

Station A (Hard Services)	Estimated Impact Cost	Station B (Soft Services)	Estimated Impact Cost
Fire truck	$50,000	One Librarian for 4 years	$ 80,000
Ambulance	$ 15,000	One Police Constable 4 years	$ 80,000
Financing costs to advance external services to new subdivision if required	$110,000	One planning Co-ordinator for 6 years	$ 95,000
Roads Protection	$100,000	Cost of monitoring	$100,000
Financing Costs to advance internal services to new subdivision if required for temporary housing	$145,000	Legal fees for agreement	$ 20,000
		Legal fees for supplementary agreements	$ 25,000
Cost of developing waste disposal site, Ontario Hydro's share 50%	$ 15,000	To tal	$400,000
Total	$485,000		

Source: (Same as Table 12)

Under Community Impact Agreements, Ontario Hydro also assumes responsibility, with the municipality, for monitoring the social, economic and financial impacts of its power generation facility.[33] Data collected monthly form the basis for agreed-upon mitigative measures which are implemented as required. Money remaining in Station Account A at the end of the agreement period reverts to Ontario Hydro while residual funds in Account B are paid to the municipality.

The Ontario Hydro approach is commendable for two reasons:
1. its combination of impact assessment and impact management, using the former to identify, project, assess and evaluate certain impacts amenable to EIA/SIA methods, and using the latter to deal with these impacts as well as to catch unforeseen impacts; and 2. the acceptance by a public agency of responsibility for key social, economic and financial effects caused by its projects. Obviously there is a quid pro quo. Hydro therby counters or

minimizes opposition to the siting of its facilities and it legally limits its responsibilities to those impacts specified in the agreements. Here the approach demonstrates shortcomings, It leaves unaddressed a considerable range of social impacts, since Hydro agreements cover municipal governments but no individuals or groups in the community. And, for the impacts that are covered (mostly services-related), Hydro responsibility ends when the agreement terminates

A third alternative to impact assessment processes, environmental mediation, builds on the experience of labour-management negotiation. Since 1975 the Office of Environmental Mediation at the University of Washington, with Ford Foundation assistance, has been working to adapt the negotiation/mediation process to environmental conflicts. Mediation is defined as

> a voluntary process in which those involved in a dispute jointly explore and reconcile their differences. The mediator has no authority to impose a settlement. His or her strength lies in the ability to assist the parties in resolving their own differences. The mediated dispute is settled when the parties themselves reach what they consider to be a workable solution.3

The Office's early successes with the the mediation of environmental disputes (the Snoqualmie flood control dam, the Port of Everett development, an interstate highway, etc.) as well as experience elsewhere[35] suggest that environmental mediation works best where certain conditions are met:

1. The conflict does not stem from opposing philosophical positions (such as differing ideological stances on nuclear power, or opposition on fundamental religious grounds).

2. Parties to the dispute have some ability to exercise sanctions over one another, and each has something to gain and lose by the project proceeding or being deferred.

3. The issues have been defined, the parties are visible and highly involved, there is some sense of urgency to resolve the conflict, and things are at or near the point of impasse.

4. Reasonable assurance can be given that the responsible authorities will implement an agreement reached by the disputing parties.[36]

Environmental mediation, Cormick points out, is not a process of arbitration, fact-finding or citizen participation.[37] The mediator is a "third party" intervenor who operates from an impartial base and whose primary role is to promote agreement (compromise) among the conflicting parties (say, the proponent proposing a project, a coalition of community and other groups opposing it, groups such as construction labour unions in favour, government regulators, etc.). The involvement of the parties in the mediation process is voluntary. There is joint exploration of issues. The mediator has no power or authority to force a settlement; he/she facilitates the negotiation process by assisting the parties to reach a viable and acceptable resolution. The mediation process typically involves 1. an exploration phase, 2. a process-design phase, 3. a formal negotiation/mediation phase, and 4. implementation of the agreement. Total time required, stage 2 to stage 4, has averaged nine months (for the three projects cited above.

Environmental mediation, though still in the formative stage, is beginning to receive a good deal of attention in various parts of the United States. It has considerable potential, in a limited set of circumstances, to be an alternative to environmental/social impact assessment.

The conduct and problems of social impact assessment are not merely a matter of method. Basic differences of opinion exist on what the nature of SIA is and therefore how its methods ought to be applied.

The next Chapter focuses on what is seen to be the fundamental dichotomy in the field, one that occurs within the ranks of both the producers and consumers of social impact studies.

Chapter 5

Two Contrasting Perspectives on SIA

Central to the problems of the SIA field is a basic divergence of view on the nature of impact assessment.

Two competing "models" or "paradigms", appear to exist (summarized in Table 3.4). One sees SIA as essentially technical analysis, while to the other it is a socio-political process.[1] The difference between them can be highlighted by considering how the key words are used in everyday language. When we say, "This is a technical matter" or "That's very political" we usually mean that the former is amenable to resolution by applying technique, facts and expertise while the latter is more judgmental. and discretionary, value-laden and open to various influences. Neither word conveys something inherently good or bad.

Table 14
SIA: The Technical vs. The Political Perspective

	Perspective	
	Technical	Political
Focus	Improved public decisions via improved social impact studies	Improved public decisions via improved socio-political processes
Key assumption	Better information inputs lead to better decisions	Open participative process leads to better decisions
Faith in	Rationality Processed knowledge Science/scientific method Etc.	Innate wisdom of the people Participation Pluralism Etc.
Reacts against	Overlooked social issues, the result of uniformed, arbitrary, narrow, short-range "political" decision-making.	The technical approach and rule by experts (technocrats): basic problems in the political system.

The two perspectives agree on one thing: the role of SIA as aid to decision-making. The technical perspective, however, tends to accept the decision-making structure as given and orients its outputs to the "top" decision-makers. By contrast, the political

perspective takes a pluralistic and flexible approach to the wider exercise of power in the community.. Examination of the two perspectives is relevant because each conditions the perceptions of its adherents concerning what social impact assessment can achieve, what it should achieve and how it ought to be done.

The Technical Perspective

Probably the majority of SIA practitioners see social impact assessment largely as a technical exercise intended, like cost-benefit analysis, to contribute to rational decisions. A rational decision, in the ideal, is one that arrives at a single best answer to a stated problem. Rational decision-making comprises consideration of all available alternatives, evaluation of all consequences of each alternative and, with reference to predetermined goals, selection of the alternative offering the most preferable outcome. An implicit assumption is that more rational decisions are better decisions. It follows that better information inputs lead to better decisions. Better decision inputs tend to be equated with objectively derived, scientifically valid, value-neutral[2] and preferably quantified information.

Social impact assessment, from this perspective, can be used either as a method of project evaluation, the objective being to select the "best" least impact alternative, or as a problem-solving approach where the aim is to assess and mitigate potential adverse consequences so that the project will have "minimum" impact. Stabler elaborates on the kinds of decision inputs that social impact studies are expected to make and the nature of the decision process to which SIA is expected to contribute:

> The impact study provides the expert's best and most specific assessment of the effect of the proposed course of action on the subject which is the focus of attention. Such an assessment may be made in dollars or, if this is not feasible, in units most appropriate to the subject under investigation. Typically, recommendations on how to minimize the indirect effects, or how to maximize them in the case of positive spillovers, are also made. The information is used by the

> responsible person or group, in conjunction with that provided through direct evaluation, in order to arrive at a decision. The decision is reached by weighing direct plus indirect benefits against direct plus indirect costs. Sometimes the proposal is modified because of the information provided, sometimes an alternative is chosen and sometimes the project is rejected. The decision is made, of course, only after a full consideration of all relevant information. [3]

Certain kinds of inputs to such decisions are superior to others. Friesema and Culhane note:

> Agencies can and frequently do dismiss or give little weight to simple assertions of preferences, because they are seen as inappropriate comments on the merits of the decision rather than the EIS, and because they violate the agencies' myth of rational decision-making and taboos against vote counting. [4]

Practitioners adhering to the technical perspective generally acknowledge that environmental and social problems have characteristics that seldom allow the criteria for rational decisions to be completely fulfilled; the rational model has been heavily critized in recent years. Nonetheless, they believe it to be worth pursing to the maximum possible extent, especially when the alternative against which they are reacting - haphazard, arbitrary, narrowly based, short-range, political decision-making - is considered. Caldwell expresses part of this concern: "Environmental issues cannot be dealt with merely by ascertaining the state of public opinion and awarding the official decision to the politically most influential point of view". [5]

The technical quality of the social impact study therefore takes on paramount importance. To improve the state of the art in general and project decisions specifically, methods/techniques/tools for identifying, predicting, assessing and evaluating the social consequences Of projects are required. Developing them becomes the field's top priority.

The Political Perspective

The technical approach is accompanied by,first, serious methodological problems, indicated by the previous chapter, and second, a professional stance (objective neutrality, etc.) that some practitioners regard either as inappropriate to issues that concern people deeply or personally offensive. Reaction against the technical perspective and its focus on the quality of social impact studies is based on three additional and more fundamental criticisms, however.

First, it is argued that the assumed link between better information and betterdecisions has little foundation in impact assessment experience. Decision processes to which impact assessment relates are inherently and inescapably non-rational:

> The basic debatable premise that underlies many of the analyses about weaknesses in the EIS process is that higher-quality environmental impact statements will lead to better policies and decisions. It presumes that if policy makers are provided with succinct, accurate and timely information based on the best scientific judgments, rigorously comparing and adequately describing the consequences of reasonable alternatives through the means of environmental impact statements, thenthosepolicy makers will make decisions which are reasonable, rational and promote the protection and restoration of the environment.
>
> More than twenty years of research on the decision-making process of public bureaucracies have adequately demonstrated that decision-makers do not and cannot operate as rational decision-makers under a scientific management rationality. Their world is far too complicated.... The many desirable environmental consequences which have occurred because of the preparation of environmental impact statements have not occurred because of the compelling analyses presented in the statements themselves.[6]

The second criticism of the technical approach is that serving existing decision processes means serving currently dominant

interests and ways of doing things. These, more than specific projects, are responsible for social problems and therefore the technical approach is self-defeating.

Lax, for example, has described the backwards way the law handles pollution (in this case, from lead allegedly from a lead smelter in a working class area of Toronto):

> The common law has traditionally favoured after-the-fact compensation of victims and has never developed adequate concern for prevention of harm. It has approached human health as a matter of economic loss and therefore seeks to compensate victims in monetary terms. The plaintiff or victim has the burden of proving that the defendant or wrong-doer is responsible for the injurious act and is therefore responsible for paying the monetary damages. The burden of proving the causal connection between the act and the harm caused by the act is most difficult, if not impossible, in environmental issues.
>
> The more important criticism of the common law is that it accepts as inevitable that tortious acts will harm certain people and that it does not set, as a priority, a legal system that attempts to prevent harm from occurring. This tradition is rooted in the social attitude prevalent in England during the industrial revolution. It accepts without serious question, the assumption that there must be victims in our society and that the best we can do for them is to compensate them after they have suffered harm.[7]

Lax goes on to elaborate on the interests which such laws serve:

> ... pollution is only the end result of the society in which we live... it is our society, rather than certain isolated activities, which gives rise to the severe environmental contamination which has caused such great concern.
>
> There has been considerable reluctance on the part of the government officials to act effectively to prevent environmental degradation or to protect public health from dangers caused by harmful substances secreted into the natural environment, Perhaps they appreciate and fear the inevitable questioning of our social and politic&systems that must form a part of the solution. Indeed, the usual response is to trade off the environmental concerns in order to protect the economic system and our present social make-up.,. Government action is directed solely to the eradication of the traces of contamination, if possible, without serious examination of the source or cause... The over-all goal is to maintain the

> economic social and political status quo while placating the environmental interest groups.[8]

In such a setting, the argument goes, impact assessment studies are done mainly "to satisfy the requirements**. They do little to aid decision-making other than justifying decisions already made. If social impacts are discussed, emphasis will invariably be put on the project's benefits, mainly economic; negative effects, if acknowledged, will be understated or mis-stated so that neither decision-makers nor the public can properly assess the project's implications.[9] Improving the quality of impact studies is not the answer to this problem. In fact it could make the situation worse. Studies that were more comprehensive and detailed, or more incisive and succinct, could serve to further insulate the project from critical scrutiny.[10]

The third argument against the technical approach is that the broad demand for social impact assessment is primarily a call for more socially responsive, accountable and responsible public planning and decision-making. It meshes with the tendency across society for people to question implicit "bargains" struck in the past, to challenge directions of public. policy, and to assert a greater voice in decisions affecting the quality of their lives and their environments.

> Increasingly aware of the scale of technological undertakings and of their potential impacts, people are preoccupied about dangers and risks and the ethical dilemma of who should share them. Limited access to technical forums of debate has roused public suspicions and inspired demands for greater political accountability.
>
> Many people feel that there is a general tendency within government to define broad political problems in narrow technical terms. They feel that this tendency inevitably leads to "closed politics", that those lacking sufficient expertise or technical competence are excluded from decision-making.11

The public demand is not for rational decision-making (rational being a matter of viewpoint) but for open decision-making,

according to this perspective. The key issues centre on values and ethics (what is better, or good enough) and on equity (what is fair, and for whom).[12] For example, the not-in-my-backyard problem is not merely self-interest. It is also (a) a demand by many people for the kind of protection against society's "bads" that has always been enjoyed by a privileged few, (b) a call for fairer treatment generally, and (c) suspicion of government agencies who operate secretively and have lost the public's trust. Such problems require political, not merely technical, solutions. Technical feasibility in controversial issues such as PCB disposal is much easier to resolve than public acceptability. To a large extent the main technical questions have already been answered but the public/political questions have rarely been debated.

Proponents of the political approach to SIA are responding to the concern that social impact will be given over, by default or deliberate intent, to experts (i.e., technocrats) who are poorly equipped to handle non-technical issues. Matzke and others found, for example:

> Most [scientists] were not alert to the problem of value judgments in their work. [Furthermore] the majority indicated that they could evaluate the desirability of specific environmental impacts...

They go on to argue:

> Because environmental data do not have evaluation tags, any such evaluation originates within the value system of the scientist. Scientists should not have an advance step on the rest of society in making value judgments about a proposed project.[13]

Those favouring a politically oriented approach to SIA contend that social impact assessment is a process that does not end with a study. They want to downplay social impact studies, aiming at straightforward documents of limited sophistication[14] that focus on clarifying value choices rather than arraying

and weighting technical options. Such studies would take their place among other inputs to an enlightened decision process that separates technical and political matters. It would emphasize openess, public access to information, consultation with affected interests, the exposure and resolution of conflict, clearer agency responsibility and accountability, effective controls over implementation and mitigation, and ongoing monitoring and review. They acknowledge that a political approach to SIA would be messy and would not solve all of the problems raised in the critique of the technical approach. But, they maintain, the important issues would be opened up, something that will happen in any case eventually. And significant new opportunities would be created to bring about gradual, evolutionary reform, the only kind possible in a democratic system.

The Berger (Mackenzie Valley Pipeline) Inquiry, 1974-77, substantially advanced SIA as political process.[15] It began with no preconceptions about how the inquiry would proceed, other than that hearings should be fair, thorough, flexible and accessible.[16] From the outset, it was accepted that decisions regarding the substance and process of the Inquiry involved more than technical matters. Preliminary hearings determined the range of issues that should be addressed and the procedures that should apply. "All those who would be affected by the project – or even remotely suspected that they might be – were given an opportunity to explain their concerns, and to make suggestions regarding the procedure for the hearings and what areas the Inquiries should consider?[17] A system of hearings, of several kinds, was then devised to ensure that the needs of both the Inquiry and the participants were met. Formal hearings received expert evidence relating to the pipeline proposal and its anticipated impacts: witnesses were cross-examined and their testimony rebutted. Special hearings focused on a detailed examination of the potential environmental risks and proposed protection measures. Informal hearings in communities through-

out the region provided extraordinary opportunities for those directly affected to "speak their minds". Finally, a set of hearings held in southern Canada gave others in the country a chance to make their views known on this project, which has national significance.

These innovative impact assessment procedures "served essentially to politicize — in the non-pejorative sense of the term — a conflict which had originally been framed in narrow technical and economic terms. It served to broaden the forum of national policy debate by explicitly. revealing the nature of political and value choices implicit in the pipeline decision?[18] The Inquiry also created an important precedent for SIA practitioners disenchanted with the technical approach to impact assessment; and for major public hearing processes it set a pattern, some aspects of which have been repeated in numerous hearings since then. However, the Mackenzie Valley Inquiry had some special features that limit its transferability to other situations: scale (an immense project of far-reaching continental proportions); the likelihood of dramatic social impacts on the politically sensitive native population just beginning to claim important rights to land ownership; ample time and resources (funds, staff legal powers) to conduct a full-scale examination of the issues; wide latitude in exercising its mandate; the ability to financially assist intervenors; and all decisions made by a single commissioner (of outstanding ability and credibility) to whom all inputs were made directly. These characteristics, together with the surprising outcome (deferring for 10 years a project that offered huge economic benefits) may have effectively made the Berger Inquiry a one-time-only experience — significant to the SIA field but not wholly replicable.

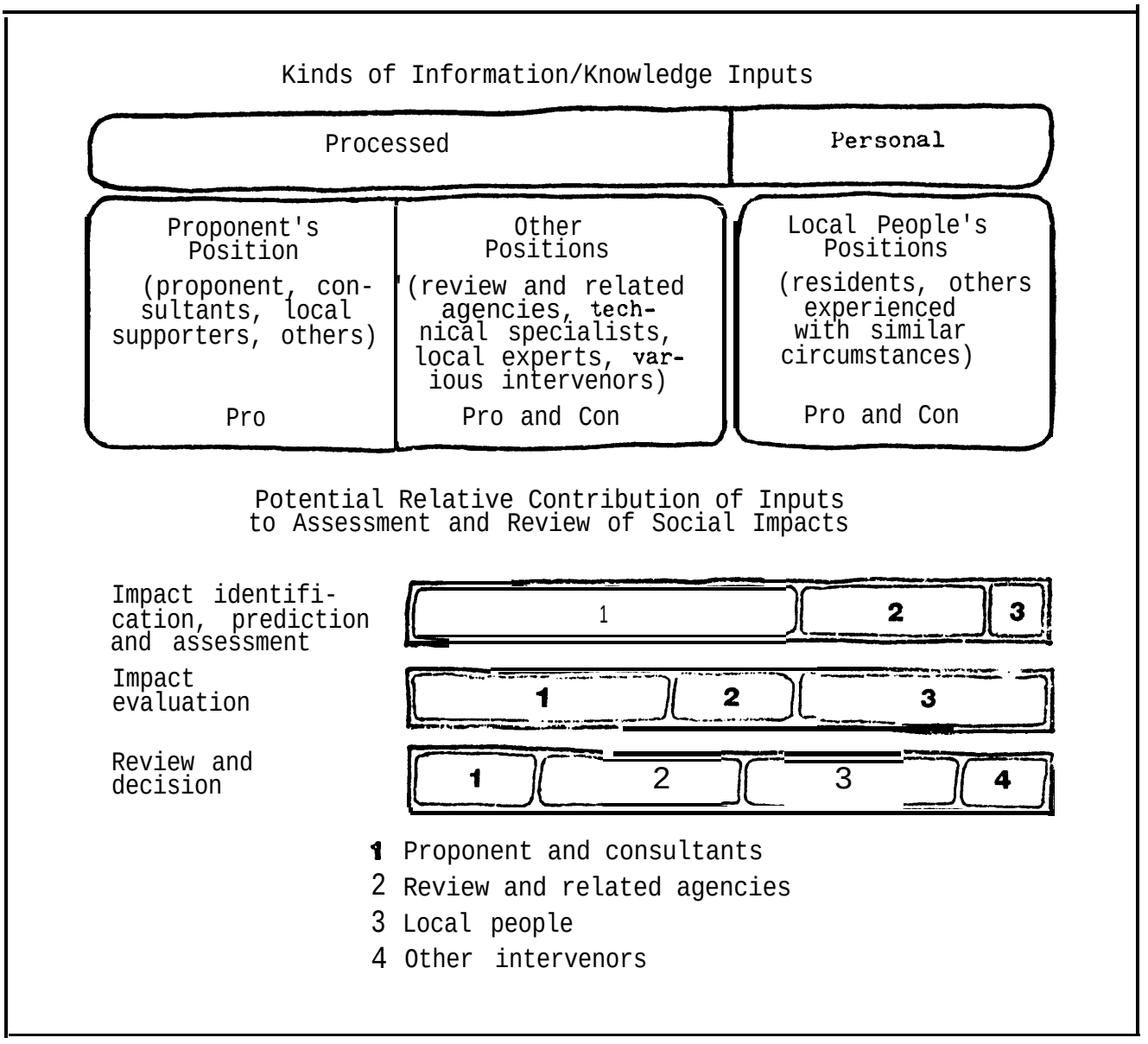
A Compromise Approach ?

On the negative side the fact that two perspectives on social impact assessment exist, fundamentally different in their objectives, principles, methods, and procedures, suggests that any approach taken by an agency with impact assessment responsibilities will meet disagreement and criticism. On the other hand the two approaches in some ways can be seen to be complementary rather than opposing, especially along the continuum from the devising of terms of reference, through impact assessment and review, to project implementation and thereafter. For example, a technical approach, made more participative, seems appropriate to the early stages of SIA while a process model has more applicability in the later review stage. Carefully conducted, a rigorous "objective" study of social impacts could provide the basis for informed in-puts from the affected community. Conversely, information and viewpoints from various interests and the general public, especially those directly affected by the proposed action, could assist in preparation of the social impact study and make a major contribution to its subsequent review.

Figure 14 diagrams the two kinds of information/knowledge inputs and the relative potential contributions of the various actors to the process of social impact assessment and review. The more objective "processed" information and knowledge assembled by the proponent, his consultants and other experts is complemented by and complementary to the more subjective "personal" information drawn largely from the local community.[19] Processed knowledge is of the symbolic (e.g., statistical), scientific-technical kind, a "constructed reality"[20] capable of being expressed in statements that can be formally communicated, critically examined and revised accordingly. Personal knowledge, by contrast, is based on the direct experience of the knower with the facts at hand; it is not formally codified, cannot be readily subjected to

systematic verification, and although rich in detail lends itself poorly to generalization beyond the specific case.[21] Each of these two kinds of inputs can balance the shortcomings of the other. Neither alone is a satisfactory basis for decisions that have significant social consequences.

Figure 14
Information/Knowledge Inputs to Assessment and Review of Social Impacts



Effecting such a compromise between the technical and political perspectives on SIA overlooks their fundamental differences. Whether these can be overcome in specific social impact assessments and reviews, and whether the result will be the best not the worst of both worlds, is a moot question. Experimentation will be required to answer it.

Chapter 6

Summary and Implicat ions

Earlier chapters identified problems related to social impacts in EARP, described the social impact assessment field, and outlined its present and potential contributions to the resolution of these problems. This chapter summarizes each chapter and discusses briefly some of the implications these findings have for EARP.

Since the vantage point is more or less that of outsiders to the Process, the discussion excludes internal matters such as interdepartmental and interorganizational relations, agency management and non-environmental issues that impinge on environmental assessment. The discussion also stops short of recommendations, in accordance with the study's terms of reference.

Summary

The EARP Experience

1. Environmental assessment in Canada is experiencing the influence of practice in the United States where definitions of "impact" have steadily widened-to incorporate social considerations. Social impacts may even be the critical factors in determining whether a project proceeds, making their assessment a matter of practical necessity for proponents and agencies responsible for impact assessment processes.

2. Social impact considerations may enter in each of the three basic stages of EARP – screening, initial environmental evaluation and formal review. Publications of the Federal Environmental Assessment Review Office make it clear that social, socioeconomic and community impacts are legitimate components of each stage.

3. Screening and Initial Environmental Evaluation are largely conducted out of the public eye. Social impacts are included in the requirements for each stage but the extent and depth of social impact analysis done is unknown.

4. In the formal review stage social impact considerations are factored into the selection of members of Environmental Assessment Panels, the formulation of guidelines for Environmental Impact Statements, the preparation of EISs, public review of the proposed projects, and the Panel's report to the Minister of the Environment.

5. A closer examination of eight EARP projects for which reviews have been completed (12 are in this category altogether and 16 additional reviews are underway) reveals some social impact related problems in each of the main elements of the formal review stage. In the formulation of guidelines, the approaches taken have been rudimentary, the rationale underlying the requested information has been uncertain, no guidance has been given on methods of social impact assessment, public input to the guidelines has been quite limited, and the guidelines themselves have not always been followed. EISs were found to have inadequate social components, they addressed only a narrow range of social impacts, it was not made clear what was expected of proponents and where their responsibility for social impacts lay, and not enough public consultation occurred during their preparation. During public hearings, public concerns were not fully addressed and the credibility of Panel decisions and EARP itself was drawn into question. Finally, the Panel reports demonstrated a steadily increasing emphasis on social impacts but the Panels themselves were not equipped to make decisions based on the project's social implications. Follow-up of identified social impacts and recommended mitigation has been uncertain and public intervenors have

not been given the assistance needed to make their contributions fully effective.

6. Overall, the two main issues centre on the quality of social impact related decisions that Panel members make, irrespective of the quality of the information they receive, and the matter of Panel and EARP credibility.

SIA: The Emerging Field

1. Social impact assessment, as a field of theory and practice, appears to be in the early stages of development. A discrete body of knowledge and skills has not yet emerged although considerable effort is being expended in this direction.

2. Characterizing a mature field is the existence of one or a few conceptual frameworks to guide practitioners as they define problems, search for data, explain cause-effect and reach conclusions. A number of frameworks are being applied in the SIA field. The more prominent among them emphasize social institutions, human-ecolological systems and quality of life. These frameworks, adapted to specific situations, can aid assessors in identifying, predicting and (to a lesser extent) evaluating social impacts.

3. Advocates of JIA believe it has important contributions to make to planning and decision processes, both public and private. Such processes tend to ignore or under-value the consequences of projects for specific individuals and groups, community traditions and lifestyles, vital social institutions, cultural norms and values, and equity. In the longer run these considerations may be more important than impacts on natural systems. In the short run they are often at the root of public concern and opposition.

4. Critics of SIA doubt that it constitutes a significant improvement, especially if account is taken of alternatives (5, below). Available knowledge of social phenomena is mostly inapplicable and SIA predictive capacities are ill-suited to the needs of impact assessment, they believe. This criticism stems only in part from interdisciplinary rivalry.

5. Alternatives to SIA, in addition to improved conventional economic, environmental and land use studies, include (a) better communication with affected publics, (b) public relations, (c) public participation, and (d) building social considerations in project planning. These improvements, however, do not fully satisfy the criticisms to which SIA responds. They could be considered complements of rather than alternatives to it.

The Conduct of Social Impact Studies

1. General agreement exists on a procedural framework, drawn from EIA, for the conduct of social impact studies. Four steps comprise the framework: profiling, predicting, assessing and evaluating.

2. Profiling begins with defining the impacted area and deciding what aspects of the social setting are to be described, Baseline data are then assembled for use in the next three steps. Conceptual frameworks, described in Chapter 3, typically do not guide profiling. Instead, practitioners favour the use of shot-gun and checklist methods.

3. Projecting involves determining which social impacts are likely to occur, should the project proceed, as well as who would be affected, in what way and for how long.

4. Assessing comprises an analysis of the projected impacts to determine their relative importance and the social costs they imply. Consideration is given to the baseline condition, the

future with and without the project, and the desired future, to ascertain the net effects that the project would likely have on individuals, groups, organizations and communities, from the professional's and the resident's point of view.

5. Evaluation means placing values on the projected, analyzed impacts. It includes identifying key differences among alternatives, clarifying the significance of these differences and of impacts, finding tradeoffs and weighing alternatives. It is both quantitative and qualitative, objective as well as subjective.

6. Practitioners are showing increasing concern over the workability of the four-part framework. Problems centre on the lack of methods, difficulties in predicting impacts, and shortage of guidelines and criteria for evaluating their significance.

7. Alternatives to the conventional approach to SIA exist. Gne is the use of an "issue report" that communicates social impacts and other issues to decision-makers, separately from environmental impacts. Another is "social impact management" which uses SIA but focuses more on coping with the unanticipated consequences of development. A third is environmental mediation, a process of conflict resolution in which opposing parties in an environmental dispute are assisted to resolve their differences and reach an acceptable agreement.

Two Contrasting Perspectives on SIA

1. Two contrasting viewpoints exist on the basic nature of social impact assessment – what it can and should achieve and how it ought to be done. One perspective can be labeled "technical", the other "political".

2. The technical perspective emphasizes sound social impact analysis, an important though often missing input to rational public decisions that affect people. Its adherents, who decry arbitrary and narrowly based political decision-making, focus on improving social impact studies and the methods that underlie them.

3. The technical perspective dominates practice and is probably also favoured by those who commission and use social impact reports. But it is criticized for assuming a spurious link between better information and better decisions, for serving decisions processes that inherently produce social problems, and for failing to respond to the widespread demand for more open decision-making.

4. In response to these criticisms the political perspective downplays the social impact study, making it one among various inputs to a wider process of assessment, review, decision and follow-up. The focus is on making this entire process more participative and pluralistic.

5. A compromise approach may be possible. It would allow each perspective to assume the primary role at the appropriate stage in environmental assessment and review. Both personal/experiential and processed/objective knowledge inputs are needed to assess fully the social impacts of a project. Whether this compromise can be achieved, given the fundamental nature of the differences on each side, remains to be determined through experiment.

Implications

Consideration of social impacts inenvironmentalassessment and review processes appears to be unavoidable. The question is no longer whether they should be dealt with but how.

Proponent departments and agencies as well as private firms may be able to exclude or downplay social factors when planning their projects, and even when submitting them to in-house environmental assessment. But when projects and their environmental impact statements reach the public eye, social impacts can be expected to force their way onto the public agenda, for several reasons. For one thing, some projects have significant and obvious social effects, whether direct (such as the forced relocation of residents), environmentally related (e.g., impacts of air pollution on the health and livelihood of people living nearby) or indirect (for instance, a project may not only generate the need for more school classrooms but also lead to a reduction in the quality of education). Furthermore, controversy and conflict inevitably accompany certain kinds of activities, nuclear facilities and the disposal of toxic waste being prime examples. Finally, public concerns over wider issues, such as the future development of the Lancaster Sound region, sometimes cannot be contained within the planning processes of single projects. When a forum is created to air social problems and express public concerns, it follows that people will take advantage of it. "Social impact", in this sense, is a new label for a familiar phenomenon that has found an outlet in EARP and other hearings.

The opening of projects to public scrutiny, however, is not in itself responsible for bringing social impacts forward. Many citizens today, partly as an outgrowth of the environmental movement of the Sixties and Seventies, have a fairly sophisticated understanding of what impacts are. They also have real concerns about matters affecting the quality of their lives and their environments. They

are more likely than ever before to voice these concerns, and an increasing proportion of them do so in an articulate and convincing manner. In addition a considerable number of citizens are suspicious of proponent agencies, both private and public (four of ten Canadians, for example, believe current energy problems to be contrived by Big Oil, Utilities and Government, according to a Gallup Poll last summer). Improved citizen understanding of impacts, the presence of real concerns along with the willingness and ability to voice them, a distrust of governments and a disinclination to simply accept government decisions, combine with the appropriate outlet to create the necessary and sufficient conditions for the emergence of social impacts. The challenge is to be able simultaneously to respond to and contain them.

The main implication of all this for EARP is the need to adapt to the new reality; social impacts are likely to arise in most projects submitted for review, and social impacts have the potential to be controversial and politically problematic, to block projects and to damage the credibility of the Process. Initial steps taken to make the necessary adaptation – altered composition of Panels, improvements to guidelines and EISs, expanded public hearings – have been insufficient, as public hearings and Panel reports testify.

Further accommodation of social impacts faces some difficult problems, however, many of them rooted in deeper methodological difficulties that confront the SIA field in general.' While the field is developing rapidly, especially in the United States, it will be some time before it is sufficiently mature that the assessment of social impacts can be considered relatively straightforward. Nonetheless, impact assessment practice in EARP still lags well behind the field. Catching up is part of the required adaptation. It deserves to include deliberate efforts to facilitate the field's development in this country, along lines congruent with Canada's political and administrative system, its social climate,, and the kinds of activ-

ities/environments subjected to assessment. But such catching up will not occur until the role of social impact assessment in EARP is clearer.

The adaptation problems identified in this report, therefore, can be boiled down to two basic issues: determining the appropriate place of social impacts in EARP; and deciding how best to assess and review them.

Situating Social Impacts in EARP

Central to a number of the problems identified in Chapter 2 is the ambiguous place that social impacts now occupy in EARP. To what extent do social impacts belong in environmentalassessment, proponents and Panels ask themselves. Which social impacts are legitimate for consideration? How much weight should'social impacts receive in guidelines-and EISs, at public hearings and in Panel deliberations? Is it the Panel's job to evaluate and decide on social impacts? Or is it more appropriate to report social impacts to the political level for resolution there? Who is responsible for dealing with them eventually?

Questions such as these have given Panels, proponents and their publics considerable trouble. In specific reviews, the lack of reasonably clear answers has also raised conflicting expectations about EARP; subsequent criticism creates doubt about the validity of the Process. The outcome of EARP exercises has become more unpredictable for proponents who are also being subjected to public and Panel reproach. A potential result is fewer projects referred for review. The situation calls for improvement.

The Process presently relies heavily on Panels, and the expertise they bring-, to sort out how impacts will be dealt with in each case. Panel members, however, have operated with little overall guidance. Solving the problems raised by the gradual emergence of' social

impact issues in EARP will require setting some limits and providing clarification, of two types.

The first concerns the kinds of social impacts deemed appropriate for consideration in EARP. The problem it addresses has to do with the wide range of possible social impacts and their open-endedness. Associated questions, in specific instances, are why these social impact studies are required and what purposes are to be served by the new information.

The second type of clarification is administrative. EARP is only one among various review processes. Others include those of the National Energy Board, Atomic Energy Control Board, National Harbours Board, Department of Indian and Northern Affairs, Canadian Transport Commission, and provincial environmental assessment agencies as well as provincial and municipal planning and regulatory processes. To what extent are social impacts, identified for projects referred to EARP, appropriate forconsiderationin that forum vs. others? Answering this question would require further sorting out of administrative boundaries and responsibilities, and less reliance by other agencies on EARP to carry the burden of impact assessment.

Providing the required clarification would make it considerably easier for impact assessors to do their jobs, would tell proponents what is expected of them, would more sharply define issues for discussion at public hearings, would create a perspective within which to place public criticism, and would render the task of Panels less obscure.

Initially, such clarification may be best done on a project- and Panel-specific, agency-by-agency basis. For example, the way that the Department of Indian and Northern Affairs addresses social impacts differsfromthe approach taken by the Department of Public Works or the Department of Transport. DINA projects, usually affecting northern settlements, are likely to have significant social implications, and the Department's mandate gives it more-

than-average control over measures needed to prevent or minimize social problems. The accumulated experience gained with specific agencies and project reviews could be fed back to develop a set of general guidelines for SIA in EARP.

Clarifying the role of social impacts in EARP would only indirectly serve the deeper objective of getting federal departments and agencies to incorporate social considerations more fully and explicitly into their planning processes, so that fewer adverse social impacts were generated in the first place. This appears to be happening in the United States but its experience is not likely to recur in this country. Several forcing mechanisms exist in the U.S.8 court rulings, the Office of Management and Budget which can withhold funds if agencies do not demonstrate compliance with NEPA and CEQ regulations, and the political process itself where strong adverse public reaction to a project sometimes translates into the blocking of the agency's program in Congress. None of these mechanisms is at work in Canada. The main impetus for social impact consideration here comes from within federal departments and agencies themselves. The self-assessment approach, conducted in private, allows them to set their own parameters for impact studies and to decide if and when to go public. As a result, the change to more explicit recognition of social impacts is slow.

Environmental assessment processes such as NEPA and EARP were originally aimed at forcing faster change with respect to environmental impacts but, for social impacts in Canada, the opportunities in this regard are restricted under the present system. Minimizing the disincentives to agencies who are considering referral of their projects for *review is* the most that can be done. Clarifying the handling of social impacts in EARP would contribute to that end.

Assessing and Reviewing Social Impacts

Making clearer the role of social impacts in EARP is related to the other problem, being assured that the admitted impacts can be adequately assessed and reviewed. Clarity depends on capability: if the latter was not present the former would be futile. Conversely, capability is tied to clarity, For example, in the presently ambiguous circumstances no full-fledged social impact assessment has been attempted under EARP.

In determining how to assess and review social impacts, it should be recognized that social impact assessment requires an approach somewhat different from environmental impact assessment. There are two reasons. First, the SIA field is comparatively underdeveloped, beyond the profiling stage, for most kinds of project-environment combinations. Practical experience with SIA is too limited' to allow a "best" approach to be identified. And second, many of the concerns that are likely to arise in the assessment and review of social impacts – value-laden concerns about quality of life and equity, for example – do not lend themselves to the conventional mode of analysis in impact assessment,characterized by systematic scientific investigation and technical evaluation. The SIA field itself is diversifying in response to these problems, and alternatives to SIA are being advanced.

If the SIA field was more mature, especially in predicting and evaluating social impacts, and if social impact issues were better defined and less subjective, the approach to social impacts in EARP could safely put much of the emphasis on the assessment side and particularly on the social impact study. But, given the emergent state of the field and the often unpredictable and intractable nature of social impacts, a more prudent strategy would place greater emphasis on the review stage of the Process while making complementary improvements to the assessment stage (the latter would facilitate development of the SIA field). In the language of

Chapter 5, such a strategywould pursue a compromise between the technical and political perspectives on SIA. It would: 1. place the technical perspective in the foreground during the assessment stage, but make it more participative; and 2. give the political perspective dominance in the review stage, but provide for sound technical inputs and rigorous examination of them.

Among the options available for adjusting the assessment stage of an EARP exercise are the following:

- Sharpen the social component of EIS guidelines. Make it clear that a prime objective of the SIA is to inform the review stage of the Process. At a minimum, require a social profile of the affected area and add impact prediction, assessment and evaluation, depending on the kinds of impacts expected. Ensure that public opinion and attitude surveys employ valid methods accepted at the start. Retain expert advice to assist in formulation of the social impact guidelines. Provide for public input to test the appropriateness of the guidelines in draft form. Initiate 'scoping' procedures,[1] with public input, to attempt to narrow down at this early stage the key social issues likely to be encountered later. Require the proponent to inform and consult with those directly affected by the project.

@Differentiate certain kinds of impacts - economic, fiscal, health, land use, and services or infrastructure impacts are the obvious examples - and where appropriate provide for them to be addressed in a rigorous manner, following the EIA mode of analysis (recognizing that these impacts eventually can be traced to value judgments that require public input in the review stage).

@Commission class studies of two types of social impacts: 1. specific impacts likely to be generated by the kinds of projects reviewed under EARP (e.g., impacts of new development

on native communities, the boomtown effect, industry in rural areas, transportation facilities): and 2. the categories of impact differentiated above (land use, economic, etc.). Class studies, summarizing what is known about each set of impacts and their assessment, would facilitate the devising of workable guidelines considerably.

Options for amending the review component of EARP include:

- Give public input a clearer and more prominent role in project assessment and review. A full assessment of a project could then combine the proponent's social impact study, oriented to "processed" information, with the experiential information provided by people in the affected area (Figure 14 in Chapter 5 depicts the two varieties of information and how they might relate in impact assessment and review). Consider developing explicit guidelines for public input at the beginning of the review. Accord those providing public input (a subset of the public participating in the review) appropriate status at hearings, and make sure there are alternate sources of information and other forms of cross-checking.

- Strengthen and support public participation by financially assisting intervenors (following precedents set by various environmental assessment inquiries in Canada) by providing information and technical assistance, by helping intervenors understand the Process and make effective presentations, and by similar measures.

- In the public hearings, subject "technical" inputs – the EIS, government agencies and some of the briefs from citizen intervenors – to more rigorous and formal review than that typically applied by EARP Panels. (This does not mean going as far as the adversary process, dominated by lawyers, but it would require a form of cross-examination of experts

and corroboration of their submissions). On the other hand, provide for "personal" inputs from affected citizens to be submitted at hearings that are more informal than those commonly found in EARP. The aim of such changes would be to match the setting more closely to the kind of information sought: where the required information is technical, ensuring that it is accurate and reliable, and where the required information is personal, creating the climate that encourages people to come forward and speak out.

Although the foregoing options are consistent with the overall findings of this study and would appear to be an appropriate. direction to take, they do not necessarily constitute a solution to the problems of social impact assessment. These problems are not yet fully grasped (and perhaps cannot be), they show up in a variety of forms, and some of them reach into the heart of the political system to challenge its underlying value consensus. As the next step is taken, to clarify the role of social impacts in EARP and to provide for their assessment and review, a sensible approach would be to develop a diverse repertoire of responses. Differing mixes of emphasis on assessment and review could be used. To know how well they are working, however, and to learn from one Panel to the next requires designing each review deliberately and purposefully, and properly monitoring and evaluating the results.

Alternatives to SIA within the present EARP framework also deserve exploration. Several of these were described in Chapter 4. Each has circumstances to which it applies, each takes a different view of how social impacts should be dealt with, and each carries its own criteria for determining the adequacy of the results.

*Conventional social impact assessment involves using scientific methods and techniques for identifying, predicting and

evaluatinp the social impacts of a project taking into account its alternatives, alternate futures, potential mitigative measures and the attitudes and values of the people it affects. This approach appears to be best suited to social environments whose main components can be readily defined, to impacts about which enough is known to enable credible predictions to be made, to proponents who are willing to engage in an open and participative examination of the social implications of their projects, and to institutional settings where responsibility and accountability for social impacts (preventive and supportive programs, mitigative measures, regulatorypowers, etc.) can be pinned down. An adequate social impact study would provide a complete social profile of the people/community/social institutions affected, a detailed analysis of the main projected impacts (who is affected, in what way, to what extent, with what consequences) for each project alternative, and a firm basis with explicit criteria for determining the significance of projected impacts and the overall acceptability of each alternative.

@The <u>issue report</u> approach, by contrast, downplays rigorous scientific evaluation, relying instead on strategic analysis and professional judgment. An issue report will be adequate if it communicates fully and clearly the concerns of affected publics, sets out the bases of opposing viewpoints, examines the extent to which social problems can be resolved through mitigation or other adjustments to the project or its relocation, and clarifies the social implications of various decision options. This approach appears suited to circumstances where the social impacts are highly contentious and/or where considerable conflict exists among key interests (and especially between governments) requiring political resolution as part of the decision on project acceptability.

*Impact management de-emphasizes evaluation in favour of looking for ways to cope with residual impacts through the familiar management measures of planning, organization, direction, control and monitoring. It is best suited to situations where a high degree of uncertainty severely limits the usual assessment of social impacts, where the proponent possesses the range of powers. required to undertake needed preventive and corrective measures, and where the community has the identity and organization that will enable it to participate effectively in the impact planning and management process. Adequacy in this case would be judged by the appropriateness of the social variables used to identify the impacts to be managed, the degree of fit between projected impacts and designed mitigative measures (this will show up later, during monitoring), and generally how well the "what if" questions were handled by contingency planning.

- Environmental mediation, the farthest departure from conventional impact assessment practice, has potential for application where the issues are visible, there are clearly defined parties in favour of and opposing the proposed project, each side has some power and each stands to gain or lose whatever the outcome, and near-impasse has been reached (Chapter 4 spells out the conditions more fully). Although environmental mediation may use impact assessment studies as information inputs, it concentrates on informed negotiation and conflict resolution with the aim of working out a compromise solution. Considerations bearing on adequacy include whether all parties to the dispute were fully consulted, how much access each had to relevant information, and whether the settlement reached is based on a thorough and fair treatment of each party's concerns.

A key factor in the assessment and review of social impacts is the expectations of those involved, whether designers and operators of

the process or its subjects. Their expectations affect what they look for in a particular EARP review, whether they think its social impact assessment component is important and if so whether it is adequate, and how they view the Panel's decision.

To some extent expectations of the professionals involved in EARP exercises are determined by the position taken on the technical/ political dichotomy outlined in Chapter 5 and how near it is to the extreme of that position. Those who look upon SIA and EIA as major opportunities to reorder societal priorities, and those who demand total rationality in decision-making based on complete and objective investigation of all alternatives, will inevitably find an EARP review disappointing. Their expectations are unrealistic. On the other hand, those who are aiming at-improvements in the sensitivity of project planning,* decision and management'processes to the needs and concerns of affected people and communities will not be disillusioned by the marginal nature of the gains made, even though they may wish for more and faster change in approaches to **social** problems.

Similarly varied expectations exist on the part of the people who submit briefs and turn out at public hearings. Their views on environmental assessment processes depend on whether and how their individual interests are affected, how they feel about governments, how they believe democratic systems ought to work, and so on — attitudes not easily changed from outside. But their views of EARP are also conditioned by what they perceive it to promise and deliver. If participants in a review comprehend what is being attempted, believe that it is being done as carefully and completely as available resources allow, and feel they have been treated fairly in a manner similar to others, they are more likely to regard the process favourably even if they disagree with its approach to social impacts or with the final decision it reaches. Keeping expectations within reasonable bounds, therefore, rests largely on ensuring that the assessment and review process is clear, thorough, fair and equitable. And that is not just in the

eye of its producers but also in the eye of its consumers.

In summary:

1. By opening impact assessment to public scrutiny, EARP creates outlets for public concerns that translate into social impacts. They are likely to arise in most projects submitted for review. Because social impacts represent social problems and because they have the potential to be controversial and politically problematic, block projects and damage the credibility of environmental assessment and review, EARP needs to adapt accordingly.

2. Steps taken to accommodate social impacts to date appear to have been insufficient. But further adaptation faces two interrelated problems: determining the appropriate role of social impacts in EARP, and devising how best to assess and review the impacts as defined.

3. The ambiguous place now occupied by social impacts in EARP creates problems for Panels, proponents and publics, and it blocks effective application of knowledge and skills from the SIA field. Two types of clarification are called for. They concern: a. the kinds of social impacts deemed appropriate for consideration in environmental assessments and reviews; and b. the extent to which social impacts of specific projects are appropriate for consideration in EARP versus other review processes at federal, provincial and municipal levels. Such clarification initially might be best done on a project and agency specific basis. Experience could accumulate into a set of general guidelines.

4. In determining how to assess and review soical impacts, two considerations stand out: first, the SIA field is far less developed than the EIA field; and second, value-laden social

issues often are not well suited to the EIA mode of analysis. A prudent approach to social impacts would place greater emphasis on the review stage giving public input a clearer and more prominent role in the Process, strengthening and supporting public participation, and altering the hearings to subject "technical" information inputs to more rigorous examination and to create a less formal climate for the input of "personal" information. At the same time, complementary improvements would be made to the assessment stage: sharpening the social component of EIS guidelines, differentiating categories of impacts (e.g., economic, fiscal, land use and services impacts) suited to a more technical treatment, and commissioning class studies that summarize what is known about certain kinds of impacts likely to recur in reviewed projects.

5. Socialimpactsand the problems they raise are diverse. No one solution is likely to apply across the board. A sensible strategy, therefore, would be to develop a repertoire of responses. Alternatives mentioned earlier – issue report, impact management and environmental mediation – deserve exploration. Each has its own range of applicability, approach and adequacy criteria.

6. A key factor in the assessment and review of social impacts is to maintain realism in theexpectations of those involved, whether professionals or publics. Much of this is beyond EARP control. What can be done, however, is to ensure that the Process is clear, thorough, fair and equitable, and that it is seen to be so.

Throughout this study, the emphasis has been on social impact <u>problems</u>. But social impact assessment can be seen as more than merely an aberrant in environmental impact assessment, or even an extension of it. The growing concern over social impacts may well signal the second stage in a development process that began over a decade ago when environmental concerns surfaced in the public and political consciousness of North America. "Development" is used here in its deepest meaning – a transformation from a simpler to a more complex state.[2] When develop-

ment occurs (an adolescent reaches adulthood, for example) there is change and there are problems but there are also new potentials. Social impacts re-open concerns/potentials about man and environment that were present when EIA was born but for a while seemed to fade away. Now they are returning in new forms that defy environmental-social distinctions. The boomerang effects of a growing list of chemicals on human and non-human health is a frightening but classic example.

Seen this way, social impacts make environmental impacts complete. Significant progress has been made in the assessment and review of environmental impact& The assessment and review of social impacts has similar promise. Combined, the prospects multiply.

Footnotes

CHAPTER 1: INTRODUCTION

1 Richard N.L. Andrews, Environmental Policy and Administrative Change (Toronto: Lexington Books, 1976), p.18.

2 The study budget totaled $4,950 including fees, travel and support services. An additional $877 was provided to compensate consultants brought together for a one-day meeting in Vancouver.

3 The EIA literature is listed in Audrey Armour, Information Resources for Environmental Impact Assessment (Downsview, Ontario; York University, Faculty of Environmental Studies, 1979), available from the Faculty's Publication Coordinator (address in Appendix D) for $7.00 including postage. This 146-page book includes over 500 references; most of them annotated, organized in four main sections: 1. legislation, policies and procedures in Canada, the U.S. and other countries; 2, theory and practice of impact assessment (subcategories: perspectives on EIA; general references; methods in EIA; EIA and planning processes; social impact assessment; economic/fiscal impact assessment; technology assessment; and public participationinimpact assessment); 3. classes of projects (subcategories: highways; airports: railways and rail transit; sewerage and solid waste; water resources: energy development, transmission and use: new towns and subdivisions; and other projects): and 4. other sources including bibliographies, periodicals, indexes and abstracts. Names and addresses of sources are included, along with their costs.

CHAPTER 2: THE EARP EXPERIENCE

1 In Hanly v. Mitchell, 1972, a case involving a proposal by the General Services Administration to construct a jail in Manhattan, the Second Circuit Court of Appeals ruled:

> The National Environmental Policy Act contains no exhaustive list of so-called "environmental considerations" but without question its arms extend beyond sewage and garbage and even beyond water and air pollution.... The Act must be construed to include protection of the quality of life for city residents. Noise, traffic, overburdened mass transportation systems, crime, congestion and even availability of drugs all affect the urban "environment" and are surely the results of the "profound influences of.... high density urbanization and industrial expansion".... Thus, plaintiffs do raise many "environmental considerations" that should not be ignored.

Cited from Environmental Reporter Cases 1152, 1972, by Carole Coop Atherton, "The Legal Requirements for Environmental Impact Reporting", in Handbook for Environmental Planning, ed. James McEvoy III and Thomas Dietz (New York: Wiley, 1977), p.55.

2 Council on Environmental Quality, Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (Washington, DC: CEQ, May 1977, promulgated Nov. 1978), Sections 1508.8 and 1508.14.

3 Charles P. Wolf is Research Professor of Social Sciences at the Polytechnic Institute of New York.

4 C.P. Wolf, "Social Impact Assessment: The State of The Art", in Social Impact Assessment, ed. C.P. Wolf (Environmental Design Research Association, 1974), p.2.

5 Federal Environmental Assessment Review Office. Revised Guide to the Federal Environmental Assessment and Review Process. (Ottawa: FEARO, May 1979).

6 See: Federal Environmental Assessment Review Office; Federal Environmental Assessment and Review Process: Guide for Environmental Screening (Ottawa: Environment Canada, Environmental Protection Service and FEARO, 1978).

7 ibid., p.8.

8 ibid., p.5

9 ibid., pp. 53-55.

10 Federal Environmental Assessment Review Office, Environmental Assessment Panels: What They Are and What They Do (Ottawa: FEARO, n.d.), p.3.

11 FEARO, Revised Guide, ibid., p.5.

12 ibid., p.7.

13 See: Council on Environmental Quality, Environmental Quality; The Tenth Annual Report of the Council on Environmental Quality (Washington: CEQ, Dec.1979), Chapter 10, "NEPA", pp. 577-605; the preceding nine annual reports and CEQ, Environmental Impact Statements: An Analysis of Six Years' Experience by Seventy Federal Adencies (Washington: CEQ, 1976).

14 FEARO, Environmental Assessment Panels, ibid., p.1.

15 FEARO, Register of Panel Projects and Bulletin, No.11, March 1980.

16 MacLaren Atlantic Ltd., Preliminary Environmental Impact Statement, Lepreau Nuclear Generating Station (Fredericton: New Brunswick Electric Commission, Feb. 1975). The EIS guidelines are included in the Appendix.

17 Point Lepreau New Brunswick Nuclear Generating Station: Environmental Assessment Panel Report to the Minister of the Environment (Ottawa: Environment Canada, May 1975). 11pp.

18 MacLaren Atlantic Ltd., Environmental Assessment for Point Lepreau Generating Station (Fredericton: New Brunswick Electric Power Commission, March 1977). The report gave little attention to social impacts. It concluded, "In summary, the project seems to be largely tolerated, the residents having resigned themselves to its development... The people appear anxious about possible disruption of their lifestyle... An influx of non-local people, higher costs and increased crime were the most feared negative impacts.... It was acknowledged that positive impacts might occur but these were considered to be speculative and did not outweigh the difficulties that were seen as being immediate."

19 Beak Consultants, Environmental Assessment and Management Strategy, Wreck Cove Hydroelectric Project. Interim Report on Environmental Assessment for Nova Scotia Power Commission (Halifax: NSPC, March 1976). A final EIS was submitted in May 1977.

20 Wreck Cove Hydro Electric Project: Environmental Assessment Report to the Minister of Fisheries and the Environment (Ottawa: Fisheries and Environment Canada, July 1977). 10 pp.

21 Guidelines to Prepare an Environmental Impact Statement for the Proposed Eldorado Nuclear Uranium Refineries (Ottawa: Environment Canada, Oct. 1976), covered this project, the next one (three additional sites in Ontario) and Eldorado's proposed refinery near Warman, Saskatchewan.

22 James F. MacLaren Ltd., Environmental Impact Assessment: The Port Granby Project (Ottawa: Eldorado Nuclear Ltd., May 1977). Supplementary documents were issued later in 1977.

23 Report of the Environmental Assessment Panel on the Eldorado Uranium Refinery, Port Granby, Ontario (Ottawa: FEARO, 1978). 63 pp.

24 James F. MacLaren Ltd., Environmental Impact Statement for an Uranium Hexafluoride Refinery, Hope Township, Environmental Impact Assessment for an Uranium Hexafluoride Refinery, Dill Township, and Environmental Impact Statement for an Uranium Hexafluoride Refinery, Blind River (Ottawa: Eldorado Nuclear Ltd., Sept. 1978). Supplementary documents were later issued for each of the three EISs.

25 Report of the Environmental Assessment Panel, Eldorado Uranium Hexafluoride Refinery, Ontario (Ottawa: FEARO, Feb. 1979). 73 pp.

26 Beak Hinton Consultants Ltd., Environmental Impact Assessment of Roberts Bank Port Expansion (Ottawa: National Harbours Board, 1977), especially Volume 5, Appendix C, The Existing Socio-economic Environment.

27 Report of the Environmental Assessment Panel, Roberts Bank Port Expansion (Ottawa: FEARO, March 1979). 70 pp.

28 F.F.Slaney and Co. Ltd., Environmental Impact Statement on the Reactivation of Boundary Bay Airport, 5 volumes (Ottawa: Transport Canada, Canadian Air Transportation Administration, 1979).

29 Report of the Environmental Assessment Panel, Boundary Bay Airport Reactivation (Ottawa: FEARO, Nov. 1979). 60pp.

30 Dept. of Public Works, Canada, and U.S. Dept. of Transportation, Federal Highway Administration, Environmental Impact Statement, Shakwak Highway Improvement, British Columbia and Yukon Canada (Ottawa: Public Works Canada, Dec.1977) and Environmental Impact Statement, Shakwak Highway Improvement, British Columbia and Yukon, Canada:

Statement of Social, Economic and Environmental Impacts. Incorporating Issues Presented at Public Hearings (Ottawa: Public Works Canada, May 1978).

31 Report of the Environmental Assessment Panel, Shakwak Highwav Project (Ottawa: FEARO, June 1978) .60 pp.

32 Norlands Petroleum Ltd., Environmental Impact Statement for Exploratory Drilling in the Lancaster Sound Region, June 1978.

33 Report of the Environmental Assessment Panel, Lancaster Sound Drilling (Ottawa: FEARO, Feb.1979). 127 pp.

34 Report of the Environmental Assessment Panel, Roberts Bank Port Expansion (March 1979), pp.31-32.

35 Report of the Environmental Assessment Panel, Shakwak Highway Project (Ottawa: FEARO, June 1978), p.52.

36 FEAR0 states, in Revised Guide to the Federal Environmental Assessment and Review Process (May, 1979), p.6: "Public comment on the guidelines may be requested before they are submitted to the initiator, This is usually done where significant public concern and/or interest has been demonstrated in the project."

37 According to the Council on Environmental Quality, "Preparation of Environmental Impact Statements: Guidelines," Federal Register 38 (August 1, 1973): 20553, "Many major Federal actions, in particular those that involve the construction or licensing of infrastructure investments (e.g., highways, airports, sewer systems, water resource projects, etc.), stimulate or induce secondary effects in the form of associated investments and changed patterns of social and economic activities. Such secondary effects, through their impacts on existing community facilities and activities, through inducing new facilities and activities, or through changes in natural conditions, may often be even more substantial than the primary effects of the original action itself."

38 In the case of the Eldorado Nuclear uranium refinery proposal for Port Granby, Ontario, the proponent reportedly spent over $1 million on site selection and the EIS. No funding was made available to citizen intervenors.

39 The Shakwak Highway Project may have been a turning point. The Panel's approach, which stressed social impact, was undoubtedly influenced by the nature of the project. It was a joint Canadian/American venture, which meant meeting

both EARP and NEPA requirements: it was the first project submitted that was not already fully committed; and it had obvious potential social impacts on several Indian communities.

CHAPTER 3: SIA: THE EMERGING FIELD

1 A paradigm is a set of common assumptions about reality (combining laws, theories, methods and means of applying them) shared by a disciplinary or professional community. paradigms are world views or broad frames of reference. The paradigm accepted by theoreticians and practitioners in a mature field contains not just abstract concepts and methodology but also values and beliefs, both explicit and implicit (e.g., the engineer's belief in technology or the lawyer's faith in the law) The classic reference on this subject is: Thomas S. Kuhn, The Structure of Scientific Revolutions, second edition (Chicago: University of Chicago Press, 1970). Jessie Barnard, in The Sociology of Community (Glenview, IL: Scott, Foresman and Co., 1973), discusses four competing paradigms of "community" in the field of sociology: ecological, social class, power structure, and Gemeinschaft-Gesellschaft.

2 The nature and use of theories is well presented in the first two chapters of: Chris Argyris and Donald A. Schon, Theory in Practice: Increasing Professional Effectiveness -(San Francisco: Jossey-Bass Publishers, 1976).

3 U.S. Dept. of Agriculture, Forest Service, Social Impact Assessment: An Overview, April 1977. Technical work for this study was provided by Dr. Richard P.Gale, University of Oregon, who is preparing a Social Impact Assessment Handbook for the Forest Service. Dr. Gale was interviewed in Eugene, Oregon, on 15 May 1979.

4 ibid., p.7. Daniel Bromley and his economist colleagues at the University of Wisconsin in Madison and the University of Alberta distinguish institutions and organizations:

> An institution is seen to be more than merely an organization. It is a method of approaching problems and dealing with issues, sometimes in a manner requiring the intervention of a collective body, other times operating through informal but other socially powerful conventions. A significant function of institutions is the definition and allocation of rights among society's members and between society collectively and its members individually... Institutions

are those social decision systems which, by defining the working rules, accommodate change and reconcile conflicting demands.

Daniel W. Bromley, et al, Institutional Design for Improved Environmental Quality: Legal and Economic Aspects in Wisconsin (Madison, WI: University of Wisconsin, Sea Grant College Program, 1977).

5 Ruth Love, Doing Social Effects Assessment: Two Cases from a Corps Field District (Fort Belvoir, VA: U.S.Army Engineer Institute for Water Resources, Nov. 1978), p.9.

6 U.S.D.A., Forest Service, ibid., p.8.

7 Love, ibid., p.9-10. Dr. Love was interviewed at her office (U.S.Army Engineer District, 319 S.W.Pine St., Portland) on 18 May 1979.

8 ibid., p.10.

9 ibid., p.8.

10 Love, ibid., considers two projects: the Applegate and Days Creek dams (the former including flood control, irrigation, water supply, fish and wildlife enhancement, recreation and water quality control, and the latter encompassing a reservoir, spillway, intake structure, power generation facilities, recreation facilities, fish and wildlife enhancement and possible downstream bank protection). Both project sites are in timbered, narrow river valleys in the foothills of the Cascades. The population is rural and resource-based although major cities are only an hour's drive away. See: U.S. Army Engineer District, Portland, Oregon, Final Supplement No.2. Environmental Impact Statement, Applegate Lake, Rogue River Basin, Oregon, August 1976 and Final Environmental Impact Statement, Days Creek Lake, South Umpqua River, Oregon, Nov. 1976.

11 Love, ibid., p.17.

12 The term "human ecology" was coined by Robert Ezra Park and Ernest W. Burgess in 1921. It represented an attempt to apply systematically the conceptual framework of plant and animal ecology to the study of human communities. Evolution of the field, including excerpts from some of the early classical works, is presented in: George A. Theodorson, Studies in Human Ecology (Evanston, IL: Harper & Row, 1961).

13 Steve H. Murdock, "The Potential Role of the Ecological Framework in Impact Analysis," Rural Sociology 44 (1979): 546,560. The author is in the Department of Rural Sociology at Texas A & M University.

14 ibid., p.558.

15 Symbiosis, in ecology, refers to a relationship of mutual dependence and benefit between two or more organisms living together: a lichen, for example, is a symbiotic union of fungus and alga. In sociology, symbiosis connotes complementary relations of mutual dependence between dissimilar groups (e.g., between those who like to lead and those who like to be led). Commensalism, in ecology, means the sharing of space and/or resources between two or more organisms ("dining at the same table"), usually where only one benefits and the other is neither benefited nor harmed. In sociology, commensalism refers to supplementary relationship between similar groups (such as workers and unions).

16 Louis J. D'Amore and Sheila Rittenberg, "Social Impact Assessment: A State of the Art Review," Urban Forum 3 (March-April 1978): 26. Lou D'Amore is president of and Sheila Rittenberg is a consultant with L.J. D'Amore and Associates of Montreal.

17 Various definitions of stability exist, among them the view that systemic stability exists when "the rate of change in a social system is commensurate with the system's ability to cope with it." See Everett M.Rogers and Rabel J. Burdge, Social Change in Rural Societies (New York: Appleton-Century Crofts, 1972), p.13.

18 D'Amore and Rittenberg, ibid.

19 Donald Schon, in Beyond The Stable State (London: Temple Smith, 1971), examines why the idea of "a calm, stable state to be reached after a time of troubles" is so seductive. George T. Lock Land, in Grow or Die: The Unifying Principle of Transformation (New York: Delta, 1973) and Edgar S.Dunn,Jr., in Economic and Social Development: A Process of Social Learning (Baltimore: John Hopkins Press, 1971), point out that growth and development are essentially unstable periods in the evolution of any organism or system; since these two processes are desirable, at least at certain times and if controlled,instability also must be accorded qualified acceptance. Eric Trist demonstrates that "turbulence," created by increased interdependencies within and among organizations and their environments, is evident in today's world. See Trist, "The Environment and System Response Capability: A Futures Perspective," paper presented to the 1st European Forum on Organization Development", Aachen, Oct.1978, and to be published in the Summer 1980 issue of Contact, Journal of the Faculty of Environmental Studies, University of Waterloo. And Ruth Mack, in Planning

on Uncertainty: Decision Making in Business and Government Administration (New York: Wiley, 1971), defines uncertainty as the complement of knowledge and discusses how to deal sensibly with it rather than ignoring it or regarding it as a enemy.

20 Ben-chieh Liu, "A Quality of Life Production Model for Project Impact Assessment," in Methodology of Social Impact Assessment, ed. Kurt Finsterbusch and C.P.Wolf (Stroudsburg,PA: Dowden, Hutchinson and Ross, 1977), pp.1820199. Liu is at Midwest Research Institute.

21 ibid., p.186. A more detailed discussion of quality-of-life and social indicators is provided in: Martin W. Brossman, et al, Quality of Life Indicators: A State-of-the-Art and Guidelines Devised to Assist in Developing Environmental Indicators (Washington, D.C: U.S. Environmental Protection Agency, 1972). A further source is: Kevin J. Gilmartin, et al, Social Indicators: An Annotated Bibliography of Current Literature (New York: Garland, 1979).

22 Marvin E.Olson and Donna J.Merwin, "Toward a Methodology for Conducting Social Impact Assessment Using Quality of Social Life Indicators," in Methodology of Social Impact Assessment, ed. Finsterbusch and Wolf, 1977: 43-63. The authors are with Battelle Human Affairs Research Centers.'

23 ibid., pp.43-44, citing C.P.Wolf, 1974, ibid.

24 Olsen and Merwin, ibid., p.54, propose such a model, conceptually. It is too complex to reproduce and explain here.

25 Liu, ibid., p.182.

26 Olsen and Merwin, ibid., p.48.

27 Finsterbusch and Wolf, ibid., contains discussions of a number of these frameworks.

28 Evan Vlachos, et al, Social Impact Assessment: An Overview (Fort Belvoir, VA: U.S. Army Engineer Institute for Water Resources,Dec.1975); and Mark Shields, "Grounded Theory Construction in Social Impact Assessment," in Methodology of Social Impact Assessment, ed. Finsterbusch and Wolf, 1977: 64-73. Vlachos is at the Center for Environmental Resources, Colorado State University.

29 Charles F. Cortese and Bernie Jones, "The Sociological Analysis of Boom Towns," Western Sociological Review 8 (1977):87.

30 Martin E.Krieger, "Social Equity and Environmental Quality," in Environmental Impact Assessment: Guidelines and Commentary, ed. Thomas G.Dickert and Katherine R. Domeny (Berkeley, CA: University of California, University Extension, 1974): 58. The same point is made and documented by David Sills, "The Environmental Movement and its Critics," Human Ecology 3 (1975): 6.

31 Reg Lang, "Environmental Impact Assessment: Reform or Rhetoric?" In Ecology Versus Politics in Canada, ed William Leiss (Toronto: University of Toronto Press, 1979), p.249.

32 William Ophuls, Ecology and The Politics of Scarcity (San Francisco: W.H.Freeman and Co., 1977), p.176.

33 Ted L. Napier, "The Social Impact of Forced Relocation of Rural Population Due to Planned Environmental Modification," Western Sociological Review 8 (1977): 92.

34 R. Daniel Schott, "Social Impacts of Transportation," in Handbook for Environmental Planning: The Social Consequences of Environmental Change, ed. McEvoy and Dietz, p.204.

35 Cortese and Jones, ibid., pp. 77-78.

36 A brief overview of public participation philosophies and methods, including prominent sources, is presented in: Reg Lang and Audrey Armour, Environmental--Planning Resource-book (Montreal: Multiscience Publications, 1980), Section 5-6. Noteworthy among the Canadian references is: P.S.Elder, ed., Environmental Management and Public Participation (Toronto: Canadian Environmental Law Research Foundation, 1975).

37 Council on Environmental Quality, Environmental Impact Statements: An Analysis of Six Year's Experience by Seventy Federal Agencies (Washington, D.C: CEQ, 1976).

CHAPTER 4: CONDUCT OF SOCIAL IMPACT STUDIES

1 University of Louisville, Urban Studies Center, Social Capacity Indicators Community Consultation, Watterson Expressway (Louisville, KY: University of Louisville, 1972).

2 Kurt Finsterbusch, A Metnodology for Social Impact Assess-ments of Highway Location (Brooklandville, MD: Maryland State Highway Administration, July 1976) p.5. While it is generally agreed that all levels of society should be

addressed, SIA practitioners differ on the relative importance that should beassigned to each level in a specific social impact study. Boothroyd, for example, believes that the impact study should focus on the individual. He has defined a social impact study as "any study which attempts to determine the impacts of a particular physical development on the day-to-day quality of life of persons whose environment is affected by the development,other than those whom the development is expressly designed to serve." See: Peter Boothroyd, Review of the State of the Art of Social Impact Research in Canada (Ottawa: Ministry of State for Urban Affairs, Nov. 1975), p.3.

3 Some SIA advocates argue that social impact assessment should focus solely on the social interactions and relationships among and between people. An SIA committee, at a recent conference on impact assessment, concluded,"Although hyphenated social matters such as socio-economic, socio-biological, and so on, are obviously related to interactions between and among people, they are ancillary and subordinate to the SIA researcher's central and overriding concern per se." See: Rabel J. Burdge, et al, "Social Components of Environmental Impact Statements", in Environmental Impact Analysis: Emerging Issues in Planning, ed. Ravinder K. Jain and Bruce L. Hutchings (Chicago: University of Illinois Press, 1978), p.119. The book comprises the proceedings of a 1977 Conference on Environmental Impact Analysis, " The Decision Process ", co-sponsored by the University of Illinois at Urbana-Champaign and the U.S. Army Construction Engineering Research Laboratory.

4 An exception: Cynthia Flynn and Rosemary Schmidt, on contract to the U.S.Army Engineer Institute for Water Resources, adapted the quality of life framework to yield a social profiling method applicable to water resource projects. See: Cynthia B.Flynn and Rosemary J. Schmidt, Sources of Information for Social Profiling (Fort Belvoir, VA: U.S.Army Engineer Institute for Water Resources, Dec.1977). The norm, however, is expressed by H.Paul Friesema and Paul J. Culhane, "Social impact assessment in EISs is almost always devoid of any recognizable social theory and appears instead to be the result of agency hunches. Rarely do EISs refer to relevant social science literature." See: Friesema and Culhane, "Social Impacts, Politics and the Environmental Impact Assessment Process," Natural Resources Journal 16 (April 1976):345. The authors go on to explain why.

5 Norbert Dee, et al, "An Assessment of the Usage of Environmental Assessment Methodologies in Environmental Impact Statements," DMG — DRS Journal 9 (January-March 1975):6 Another study concludes that social impact researchers tend to "stay within the safety of their disciplinary boundaries" which result in the omission of significant areas of concern

to proponent agencies. See: Henry Hitchcock, Analytical Review of Research Reports on Social Impacts of Water Resources Development Projects (Fort Belvoir, VA: U.S.Army Engineer Institute for Water Resources, 1977),p.193. A third study, of 80 EISs filed in compliance with NEPA from 1970 to 1974, found: "In only 9 cases out of 80 did the minimal conditions for sociological theory obtain," "No social research method or technique could be determined in 86.5% of the cases," "Consciously employed interdisciplinary approaches were nonexistent" and ". . .in 93.8% of the cases, no directives regarding the use of SIA knowledge could be detected? See: Arthur S. Wilke and Harvey R. Cain, "Social Impact Assessment Under NEPA: The State of the Field," Western Sociological Review 8 (1977): 107.

6 U.S.Dept. of Housing and Urban Development, Draft Environmental Statement on the New Community of Cedar-Riverside,Minneapolis, Minnesota (Washington, D.C: HUD, 1974) A Canadian example of the shot-gun approach is: Beak Consultants, Environmental Assessment and Management Strategy, Wreck Cove Hydroelectric Project: Final Environmental Impact Statement (Halifax: N.S.Power Corporation, May 1977).

7 "Variety" is a measure of the number of possible states of a system. Ashby's Law of Requisite Variety dictates that it takes variety to cope with variety. Excessive variety equals information overload or inability to control the situation. Variety is discussed in: Reg Lang and Audrey Armour, Environmental Planning Resourcebook (Montreal: Multiscience Publications Ltd., 1980), p.16 and 292.

8 R. Daniel Schott, "Social Impacts of Transportation," in Handbook for Environmental Planning: The Social Consequences of Environmental Change,ed. James McEvoy III and Thomas Dietz (New York: Wiley, 1977), p.211.

9 E.J.Baur, Assessing the Social Effects of Public Works Projects (Fort Belvoir, VA: U.S.Army Corps of Engineers, 1973), cited in Social Impact Assessment,ed. C.P.Wolf (Environmental Design Research Association,1974),p.12.

10 Wolf, ibid.

11 Rabel J. Burdge and Sue Johnson, "Sociocultural Aspects of the Effects of Resource Development," in Handbook -for Environmental Planning: The Social Consequences of Environmental Change,ed. McEvoy and Dietz, p.243. The method was first proposed in C.P.Wolf, ed., Social Impact Assessment,1 974.

12 ibid, p. 246.

13 C.P.Wolf, "Comment on Social Impact Statements: A Tentative Framework," in Social Impact Assessment, ed. Wolf, p.85.

14 ibid.

15 Duncan & Jones, Methodology and Guidelines for Assessing Social Impacts of Development (Sacramento, CA: Sacramento County Community Development and Environmental Protection Agency,1976), p. 61. A similar set of criteria can be found in: Federal Environmental Assessment Review Office, Guide for Environmental Screening (Ottawa: FEARO, 1978), p.6.

16 A number of agencies have attempted to prescribe standards or thresholds for use in assessing the social impacts of their projects. See especially: Planning Environmental International, Interim Guide for Environmental Assessment (Washington, D.C: U.S.Dept. of Housing and Urban Development, 1975); Skidmore, Owings & Merrill, et al, Notebook 2. Social Impacts: A Guidance Manual for the Assessment of Social Impacts Due to Highway Facility Improvements (Washington, DC: U.S. Dept. of Transportation, 1975); and Skidmore, Owings & Merrill, et al Guidance Notebooks for the Environmental Assessment of Airport Development Projects. Notebook 2: Environmental Assessment Techniques (Washington, DC: U.S. Dept. of Transportation, 1978).

17 Kurt Finsterbusch, "Estimating Policy Consequences for Individuals, Organizations and Communities/@ in Methodology of Social Impact Assessment, ed. Finsterbusch and Wolf, pp.13-14.

18 Finsterbusch and Wolf, eds., ibid., p. 314.

19 ibid.

20 Cynthia B. Flynn, "Science and Speculation in Social Impact Assessment," Social Impact Assessment 11/12(1977):5.

21 David C. Miller, "Methods for Estimating Social Futures," in Methodology of Social Impact Assessment, ed.Finsterbusch and Wolf, ibid., p.204.

23 James C. Cramer, et al, Social Impact Assessment of Regional Plans: A Review of Methods and a Recommended Process (Davis, CA: University of California Davis, Dept. of Sociology, March 1979), p.9.

24 Marvin E. Olsen and Donna J. Merwin, " Toward a Methodology for Conducting Social Impact Assessments Using Quality of Social Life Indicators," in Finsterbusch and Wolf,ibid., pp.52-53.

25 George L. Peterson and Robert S. Gemmell, "Social Impact Assessment: Comments on the State of the Art," Methodology of Social Impact Assessments, ed. Finsterbusch and Wolf, ibid., p. 384.

26 Mim Dixon, What Happened to Fairbanks? An Interpretive Study of the Effects of the Trans-Alaska Oil Pipeline on the Community of Fairbanks, Alaska (Boulder, CO: Westview Press, 1977).

27 For example, suppose low-level radioactive waste is stored near the home of an individual who believes that it threatens his health. Assuming that his fears are groundless - and that is open to question, on current evidence - he may attribute vague symptoms of dis-ease to the stored waste. Visits to various doctors can diagnose no illness but they probably will lead to many medical X-rays. Ironically, these could trigger real illness. This argument sets aside the fact that if a person feels ill, he is suffering as much as he "actually" were ill.

28 Interview with Interior officials, especially Bruce Blanchard, Director, Environmental Project Review, in Washington on 18 Ocyober 1979. The Department has prepared guidelines for issue reports. Two examples of issue reports are: Secretarial Issue Document, FWS Control of Predator Damage to Western Livestock, August 1979, 24pp.; and Secretarial Issue Document, Southern California OCS Sale No.48, Feb.1979, 66pp.

29 Council on Environmental Quality, Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (Washington, DC: CEQ, 24 May 1977). Promulgated in Federal Register 43, 55978-56007, Nov.1978.

30 Wayne Greenall, "Planning to Reduce Impact in the Community," presentation to Social Impact Workshop, University of Toronto, Continuing Education, Fall 1978. Greenall is with the Polar Gas Project.

31 J.S. Merrett, State-of-the-Art Review of Experience in Assessing the Socio-economic Effects of Northern Pipeline Projects as of Mid-1976 (Winnipeg: M.P.S. Associates Ltd., 1977),p.33.

32 John H. Walker, Community Impact Agreements: An Approach to Mitigating Social and Community Impacts of Power Stations on Communities (Toronto: Ontario Hydro, Route and Site Selection Division, Oct.1979), p.15.

33 To date, only one fully operational monitoring program has been established, for the Township of Atikokan. See: Syd Hancock and John Walker, Community Impact Monitorin. Program. First Annual Report 1978 (Atikokan, Ontario: Township of Atikokan and Ontario Hydro, June 1979). Also: Proctor and Redfern Group, A Social and Community Impact

Monitoring and Review System (Toronto: Ontario Hydro, Route and Site Selection Division, Jan.1979). Impact monitoring examples are uncommon. In the United States, the Pennsylvania Power and Light Company has established a monitoring study of community impact for its Susquehanna Steam Electric Station (contact Vivian Ross at PP & L's Community Affairs Department). In New Zealand the School of Social Sciences, University of Waikato, in 1975 formed a Research Unit, financed by the Ministry of Works and Development, to monitor the social and economic consequences resulting from the building and running of a 1000 MW thermal power station at Huntly. Contact Tom Fookes, Huntly Social and Economic Impact Monitoring Project, School of Social Sciences, University of Waikato, and see Fookes (Appendix C) and Social Impact Assessment 45/46 (1979): 10-11.

34 Gerald W. Cormick, Resolving Environmental Conflicts Through Mediation: Experience, Process and Potentials (Seattle, WA: University of Washington, Office of Environmental Mediation, 1978),p.4. Dr. Cormick, the Office's Director (and a Canadian), was interviewed in Seattle on 17 May 1979. See also: Leota K. Patton and Gerald W. Cormick, "Mediation and the NEPA Process: The Interstate 90 Experience," in Environmental Impact Analysis: Emerging Issues in Planning, ed. Jain and Hutchings, pp.43-54; David O'Conner, "Environmental Mediation: The State-of-The-Art/ EIA Review 2 (Cct.1978): 9-17, which overviews the U.S. experience;and E.Jackson Baur, "Mediating Environmental Disputes," Western Sociological Review 8 (1977): 16-24.

35 The Council on Environmental Quality recently sponsored a **major** study of environmental mediation, by the American Arbitration Association. Two California-based organizations in the environmental/resource mediation field are Cultivate Understanding and Resolve. Others in the U.S. include the Institute for Mediation and Conflict Resolution in New York, Community Dispute Services in Boston, and The Rocky Mountain Center for the Environment in Denver.

36 Cormick, ibid., pp.5-6.

37 Cormick, ibid., p.6.

CHAPTER 5: TWO CONTRASTING APPROACHES TO SIA

1 This distinction can be found under different labels in various sources, for example: Doug Torgerson, Social Impact Assessment as a Social Phenomenon: The Problem of Contextuality, paper presented to First Canadian Symposium on Social Impact Assessment, Banff Centre, 30 Nov. 1978 (Downsview, Ontario: York University, Faculty of Environmental Studies, Nov.1978), p.10; and George L. Peterson and Robert S. Gemmell, "Social Impact Assessment: Comments on the State of the Art," in Methodology of Social Impact Assessment, ed. Kurt Finsterbusch and C.P.Wolf (Stroudsburg, PA: Dowden, Hutchinson and Ross, 1977), p.377.

2 "An ideal prediction method contains no bias," according to R.E.Munn, ed., Environmental Impact Assessment: Principles and Procedure (Toronto: Scope 5,1975), p. 119. This edition has since been superseded.

3 J.C.Stabler, "The Report of the Mackenzie Valley Pipeline Inquiry, Volume 1: A Socio-Economic Critique," The Musk-Ox: A Journal of the North 20 (1977):57-58, cited in Torgerson, ibid., p.12.

4 H.Paul Friesema and Paul J. Culhane, "Social Impacts, Politics and the Environmental Impact Statement Process," Natural Resources Journal 16(April 1976):351.

5 Lynton K. Caldwell, et al, Citizens and the Environment: Case Studies in Popular Action (Bloomington, IN: Indiana University Press, 1976), p.xxi.

6 H.Paul Friesema, "Environmental Impact Statements and Long-Range Environmental Management," in Environmental Impact Analysis: Emerging Issues in Planning, ed, R.K.Jain and B.C. Hutchings (Urbana, IL: University of Illinois Press, 1978), pp. 56-58 . A similar critique of the rational model, from the standpoint of planners, is made in: Anthony James Catanese, Planners and Local Politics: Impossible Dreams (San Francisco: Sage Publications, 1974).

7 C.C.Lax, "The Toronto Lead-Smelter Controversy," in Ecology Versus Politics in Canada, ed. William Leiss (Toronto: University of Toronto Press, 1979), p. 63. The issue, first made public in 1970, still remains unresolved.

8 ibid., pp. 57-58.

9 Eugene Bardach and Lucian Fugliaresi, "The Environmental

Impact Statement vs. The Real World," Public Interest (Fall 1977): 22-38. This article provides a critical analysis of strategies adopted by U.S. federal agencies in reponse to the EIS requirement.

10 Friesema, ibid.

11 Committee for Scientific and Technological Policy, Public Participation in Decision-Making Related to Science and Technology (Paris: Organization for Economic Co-operation and Development, Sept. 1978), pp. 10,11.

12 Peterson and Gemmell, ibid.

13 Gordon Matzke, et al, An Examination of the Moral Dilemma of University Scientists Participating in the Preparation of Environmental Impact Statements (Stillwater, OK: Oklahoma State University, Dept.of Geography, 1977), cited in Social Impact Assessment 25 (1978): 11-13.

14 Friesema, ibid., p.58, with reference to environmental impact studies, argues, "It is not necessary or even desirable for EIS preparers to be Ph.D. research scientists with long vitaes, able to apply rigorous scientific methodologies. EISs should reflect current knowledge and best judgments of operating experts, which may be expressed without too much polish."

15 Mr. Justice Thomas R.Berger, Northern Frontier, Northern Homeland. The Report of the Mackenzie Valley Pipeline Inquiry: Volume One (Ottawa: Dept. of Indian Affairs and Northern Development, April 1977). Chapter 10 is titled "Social Impact." Justice Berger was interviewed on 20 November 1979.

16 D.J.Gamble, "The Berger Inquiry: An Impact Assessment Process," Science 199 (3 March 1978): 948.

17 ibid.

18 Committee for Scientific and Technological Policy, ibid., p.88.

19 The concept of two kinds of knowledge, processed and personal, comes' from John Friedmann, Retracking America: A Theory of Transactive Planning (Garden City, N Y: Anchor Press Doubleday, 1973).

20 See Peter L.Berger and Thomas Luckmann, The Social Construction of Reality (New York: Doubleday & Co., 1966).

20 ibid., pp. 99-106 and 245-246. Friedmann proposes fusing processed and personal knowledge into a form of "transactive planning" that forges a personal link between expert and client actor.

CHAPTER 6: IMPLICATIONS

1 The latest CEQ guidelines define scoping as an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. "Scope" is defined as the range of actions, alternatives and impacts to be considered in an EIS. They require that, in determining the scope of EISs, agencies consider three types of actions (connected actions, cumulative actions and similar actions), three alternatives (no action, other reasonable courses of action, and new mitigative measures) and three types of impacts (direct, indirect and cumulative). See: Council on Environmental Quality, Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (Washington, DC: CEQ, Nov.1978), Sections 1501.7 and 1508.25. CEQ also states, in Environmental Quality, The Tenth Annual Report of the Council on Environmental Quality (Washington, DC: CEQ, Dec. 1979),p.578:

> One of the most significant innovations in the new NEPA regulations is the 'scoping" process. When a federal agency determines that a progosed action requires preparation of an EIS, it must take prompt action, at the very beginning of the planning process, to identify the most important issues that require full analysis and to separate those issues from the less significant matters that do not require detailed study. The scoping process also helps to identify any environmental review and consultation requirements imposed by laws other than NEPA and to allocate responsibilities among lead and cooperating agencies. Affected federal, state and local agencies, and interested members of the public, must be invited to participate in the scoping process.

2 Seet Edgar S. Dunn, Jr., Economic and Social Development: A Process of Social Learning (Baltimore1 Johns Hopkins Press, 1971).

Appendix

A. The Federal Assessment and Review. Process

This appendix comprises information adopted from Revised Guide to the Federal Environmental Assessment and Review Process, issued by the Federal Environmental Assessment Review Office in May 1979, and the earlier Guide dated February 1977.

Origin of the Process

The Federal Environmental Assessment and Review Process (EARP) is a means of determining in advance the potential environmental impact of federal projects, programs and activities. The Process was established by Cabinet decision on 20 December 1973 to ensure that:

a. environmental effects were taken into account early in the planning of new federal projects, programs and activities:

b. an environmental assessment was carried out for all (federal) projects which might have an adverse effect on the environment before commitments or irrevocable decisions were made; and

c. the results of thege assessments were used in planning, decision-making and implementation.

Federal projects are considered to be those initiated by federal departments and agencies, including those for which federal funds are solicited and those involving federal property. All federal organizations are bound by the Cabinet directive but proprietary crown corporations and regulatory agencies are invited rather than directed to participate in the process.

Under the Government Crganization Act 1979, the Minister of the Environment is charged with overseeing the environmental assessment and review process. The Federal Environmental Assessment Review Office (FEARO) administers the process on behalf of the Minister to whom it responds.

Components of the Process

EARP automatically applies when a federal project is conceived. The Process is based on a self-assessment approach. Federal departments and agencies initiating projects are -responsible for conducting initial assessments, establishing the significance of identified impacts, and carrying out any mitigative measures required.

EARP has three main components: environmental screening, the initial environmental evaluation, and the formal review (See figure 1, Chapter 2, page 14). The first component always applies, the second is often used and the third comes into effect for only a small percentage of all federal projects.

Environmental Screening As early in the planning stages as possible federal departments and agencies screen their proposed projects to identify adverse environmental effects (See FEARO's Guide for Environmental Screening 1978). Screening can result in one of three decisions by the initiating department8 1. no known or potentially adverse environmental effects will occur: 2. potentially significant environmental effects may occur; or 3. environmental effects cannot be readily determined by screening. In the first case, the project can proceed. The second decision results in a referral to the Minister of the Environment for a formal review. The third leads to the next component of the Process.

Initial Environmental Evaluation. An IEE normally includes a description of the project and alternative ways of accomplishing it, a description of the current environment and resource use, an outline of the potential environmental effects/impacts, details on measures proposed to mitigate or prevent these impacts, and a judgment on the residual impact:; (those remaining after preventive and mitigative measures). The initiating department decides whether the project's environmental impacts are significant. If the decision is no, the project may proceed. Gtherwise, it is referred for a formal review.

Formal review. FEARO, consulting with the relevant provincial government, carries out this part of the Process. It involves an independent, comprehensive examination of the project, in several stages:

1. Formation of an Environmental Assessment Panel. Members, appointed by the Executive Chairman of FEARO, are selected for their expertise in and knowledge of the issue. Panels normally comprise four to eight members including the Chairman from FEARO. Members can be chosen from within or outside the federal public service. The Panel manages the review, with staff support from FEARO, and reports directly to the Minister of the Environment.

2. Guidelines for Preparation of an Environmental Impact Statement. The Panel's first main task is to issue guidelines for preparation of an EIS by the initiating department (or proponent on whose behalf the department is acting). Guidelines are intended to ensure that the EIS contains the information that the Panel, technical

reviewers and the public need to evaluate the proposal's environmental and related social implications. Public comment on the guidelines, 'in draft form, may be invited.

3. The Environmental Impact Statement. The EIS is prepared by or on behalf of the project initiator/proponent. It describes the project, its location, the need for it and alternative methods of achieving it. It also describes the area's existing environment and current patterns of resource use, social factors such as population characteristics and community lifestyle, and the economic base of the area. It provides a detailed description of the potential effects of the proposal on the area's environment and identifies measures the proponent intends to take to prevent or reduce these impacts. Residual impacts must also be identified.

4. Deficiencies of and clarifications to the EIS. When it receives the EIS the Panel decides whether it contains sufficient information upon which to base the subsequent review. Federal and provincial agencies, local governments, other organizations and the public assist with this task. The Panel may prepare a list of deficiences and clarifications and ask the proponent to provide further information.

5. Public and technical reviews. The Panel holds public meetings in the affected area to facilitate technical and public review of the EIS and the project. On the former, the Fanel requests (and makes public) scientific and technical opinion, from federal and provincial agencies as well as others with relevant expertise, on the validity and accuracy of the EIS. Fublic comment on the EIS is especially sought to assist the Panel in determining the environmental significance of the project. Fublic meetings are conducted informally by choice; they are not legal proceedings. The discussion is structured around briefs solicited in advance of the public meetings. Panel secretariat staff are available before and during the meetings to assist people wishing to participate in the review.

6. Preparation of the Panel's report. After the public meetings the Panel evaluates the substantial quantity of information it has received. During its deliberations it reaches a decision on the environmental acceptability of the project: acceptable; acceptable with modifications or conditions; or not acceptable. The Panel then prepares its report to the Minister of the Environment. The report normally describes the history of events related to development of the project, the project itself, the characteristics of the area and region in which the project is to be located, and the environmental

and related social impacts of the project as determined from the reviews and public meetings. The report then sets out the Panel's conclusions and recommendations concerning the project and its possible implementation. Panel recommendations can include design requirements, studies to obtain additional information, surveillance procedures, environmental controls, other mitigative measures, and monitoring of actual project impacts. The Panel's report is submitted to the Minister and released to the public.

Decisions on the Panel's recommendations are made by the Ninister of the Environment and the Ninister responsible for the department initiating or sponsoring the project, or by the Federal Cabinet when the Ministers are unable to reach agreement.

FEARO's regular publication, Register of Panel Projects and Bulletin, outlines federal projects that have undergone review or are being reviewed.

B. Contacts Made During the Study

This Appendix lists individuals and agencies who were contacted during the study. * indicates that an interview was conducted and ** indicates a participant at the Vancouver meeting.

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C. Selected References on Social Impact Assessment

This bibliography lists selected references on SIA - conceptual frameworks, methods and studies. Not included are references to methods and techniques for assessing specific categories of social impact (such as impacts on community cohesion, health, social services, etc.) or references to EISs which have a social impact component as part of the study.

Most recently quoted costs, where available, are shown. Addresses of publishers and other publication sources are provided in Appendix D.

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