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EVAL

Report

EVALUATION OF THE SUBSIDIARY AGREEMENT FOR PLANNING

FINAL REPORT

Thorne Stevenson & Kellogg
Management Consultants

Project Report

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FINAL REPORT

Prepared for

Nova Scotia Department of Development

Department of Regional Economic Expansion

Prepared by

R.B. Robinson
S.E. Varette
D.A. Smith

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INTRODUCTION

A. THE GENERAL DEVELOPMENT AGREEMENT

The Government of Canada and the Province of Nova Scotia signed the General Development Agreement (GDA) on September 12, 1974. The Agreement provides a general framework for the coordinated planning and implementation of measures for economic and socio-economic development in Nova Scotia. The federal Department of Regional Economic Expansion (DREE) and the provincial Department of Development (DOD) share responsibility for the management of the GDA.

The GDA seeks to:

- Encourage the expansion or maintenance of viable, long-term employment opportunities and optimum quality of life in Nova Scotia.
- Increase the earned incomes of the people of Nova Scotia.
- Assist in the development of a dynamic and creative provincial economy which will encourage the growth and stability of economic activity in the province.

Pursuit of these objectives involves joint analysis and review of Nova Scotia's social and economic conditions, as well as joint identification and promotion of development opportunities. The GDA's vehicle for exploring these opportunities is the subsidiary agreement.

A number of subsidiary agreements have evolved in response to the sectoral and geographic strategies set out in the GDA. The partners of each agreement -- DREE and the provincial department concerned -- determine the cost-sharing arrangement based on respective interests in the initiative and other considerations. Examples of subsidiary agreements include Tourism, Energy Conservation, Industrial Development, Mineral Development and Planning. Provincial-federal cost sharing ratios for these agreements range from 1:1 for Planning to 1:5 for Mineral Development.

In establishing the GDA as the umbrella for these subsidiary agreements, the two governments recognized the need for planning at two levels:

- Detailed analysis to determine the feasibility of identified opportunities and the initiatives required to achieve them.

- Planning in relation to the infra-structure and implementation capacity required to support identified opportunities.

These planning needs have been addressed through two approaches. Several of the focussed subsidiary agreements include a formal planning component; others have an implicit planning orientation in their development mandate. The second planning instrument is a separate subsidiary agreement created solely for planning.

B. THE PLANNING SUBSIDIARY AGREEMENT

An interim planning agreement between Canada and Nova Scotia, signed in 1973, sponsored a number of studies to investigate development opportunities. The Subsidiary Agreement for Planning (the Planning Sub) signed under the GDA on June 22, 1976 continued this arrangement. Originally destined to terminate on March 31, 1980, the agreement has since been extended to March 31, 1982.

With a budget of $5 million shared equally by Canada and the province, the Planning Sub, through three program initiatives, was intended to:

- Provide a capability for undertaking studies and conducting planning required to identify and analyze economic and socio-economic opportunities in Nova Scotia.

- Develop strategies, programs and subsidiary agreements pursuant to those opportunities.

Investigation of development opportunities would focus on jointly identified areas of interest which required additional research and planning before drawing up a specific subsidiary agreement.

C. MANDATE FOR EVALUATION

Section 12 of the General Development Agreement requires each

subsidiary agreement to include provisions for evaluation. Similarly, the Planning Sub itself specifies under Section 13 that the Agreement be evaluated in relation to its stated objectives.

Specifically, the evaluation should:

- Assess the efficiency and effectiveness of the programs under the Planning Sub with respect to the stated objectives.
- Evaluate the Agreement with respect to its impact on the general economic and socio-economic development of Nova Scotia.

Terms of reference for the study recommended a general strategy which recognized the measurement difficulties associated with the diverse and qualitative nature of the projects. The Abt Associates of Canada/Thorne Stevenson & Kellogg proposal accepted by the Project Team incorporated these terms of reference into its research approach.

This report reviews the activities outlined in our interim methodology report, summarizes the data collected and analyzes their impact on the Planning Sub objectives. Specifically:

- Chapter II describes the various stages of data gathering.
- Chapter III reviews the implementation of the Planning Sub including program design and basic project data.
- Chapter IV presents an analysis of the costs and benefits of selected projects.
- Chapter V draws together both qualitative and quantitative outcomes and discusses their implications for the existing and future Subsidiary Agreements for Planning.

An Executive Summary is presented as a separate document.

II

OUR APPROACH

Exhibit II-1 presents the research design which guided the evaluation. Revisions were made to the original framework after orientation with the Project Team. Implementation of the design involved several stages.

A. REFINING THE PROGRAM MODEL

Our proposal drafted a preliminary program model representing the process and objectives of the Planning Sub. Review of background documentation and discussions with members of the Coordinating and Management Committees sought to clarify the origins and intent of the Agreement and the process of implementation. Interviews with project team members also contributed to our understanding. A revised program model is presented in Chapter III.

B. BACKGROUND DATA FROM PROJECT FILES

1. Update of project status

The number and status of projects had changed since the time our proposal was submitted. Exhibit II-2 provides a revised summary based on DOD information as of January 31, 1981. Exhibit II-3 lists the additional projects approved to that date.

The number of newly approved projects represented a 24% increase over the base assumed in our proposal. However, because of the particularly heavy weight of new projects in the General Development Planning program (as a proportion of all such projects), we included all new projects to January 31, 1981 in the data-gathering stage.

As explained below, the number of projects treated as complete for data-gathering was 34, an increase of 9 (36%) since the time the proposal was written.

EXHIBIT II-1. Research design

Policy Question	Research Question	Data Item	Data Source
What is the impact of the Planning Subsidiary Agreement on the economic and socio-economic development of Nova Scotia?	Have projects matched the intent of the Agreement?	Stated objectives of projects matched against criteria suggested by the Agreement.	Management Committee submissions stating objectives of the project.
	Have individual studies led to development of strategies, programs and other subsidiary agreements?	Output measures -- accomplishment/impact of projects.	Project reports. Interviews with project teams.
		Costs -- contract, project team, staff time, overheads.	
	Where implementation has formed part of the project, has viable long-term employment resulted?	Jobs created on projects (ignoring possible reservations on incrementality and attribution).	Project team interviews. Secondary sources.
	Has the availability of subsidized planning studies in specified areas directed attention away from other planning priorities?	Studies proposed by provincial departments and not funded. Fit with other planning activities.	Departmental interviews.
	Do the studies funded under the Agreement appear to have been good investments?	Benefits and costs of projects.	Output analysis. Project and administration costs.

EXHIBIT II-1. Research design (cont'd.)

Policy Question	Research Question	Data Item	Data Source
Have projects under the three program areas been efficient and effective in relation to stated objectives?	Is work on projects of appropriate quantity and quality?	Contracting arrangements. Project performance - on time - on budget	Project files, project team interviews
	What projects are funded?	Analysis of project match with program criteria. Proposals not funded (if available) and proposals funded through other arrangements - internal departmental - other subs	Project files. Interviews with project teams and departmental officials.
What changes are indicated for a potential Second Planning Sub-Agreement?	Should a future Agreement provide a different focus?	Relative success of projects under the three program components.	Project analyses.
	Can or should a more objective set of funding criteria be developed?	Degree to which criteria were used to select projects.	Analysis of match between project objectives and Agreement criteria.
	Should the approval and implementation process be changed?	Delays and obstacles to processing a project.	Project team and departmental interviews.

EXHIBIT II-2. Status of projects as of January 31, 1981

	Number of Projects				
	Total Approved	Complete	Active	Cancelled / Transferred	Approved in Principal
Program 107601					
Physical and Resource Planning	8	2	5[1]	1	1
Program 107602					
Research and Studies to Investigate Development Opportunities	41	20	18[2]	3	2
Program 107603					
General Development Planning	14	6	7	1	1
TOTALS	63	28	30	5	4

[1]Two projects at least 90% complete in terms of funds disbursed

[2]Four projects at least 90% complete.

EXHIBIT II-3. Projects approved between proposal and January 31/81

Program	Project #	Project Name	$ Budgeted	$ Remaining
107601	(h)	Water Resources - South-West N.B. - Part II	150,000	150,000
		Total	150,000	
		% Revised Budget	10%	
107602	(ll)	SYSCO Rail Market Study	75,000	75,000
	(mm)	Viability Study Group Management Projects	30,000	30,000
	(nn)	I.D. II - Project I - Implementation	25,000	25,000
	(oo)	Native Economic Development	50,000	50,000
		Total	180,000	
		% Revised Budget.....	6%	
107603	(h)	Evaluation of the Planning Sub	40,000	40,000
	(i)	Updating Input-Output Tables	50,000	50,000
	(j)	Freight Movement & Port Development (HDRP)[1]	35,000	35,000
	(k)	Ind. Fabric/Future Ind. Study (HDRP)	33,000	33,000
	(l)	Ind./Port Development Policy Review (HDRP)	15,000	15,000
	(m)	Ind. & Port Development Option (HDRP)	30,000	30,000
	(n)	Econ. Studies - Prep. of Econ. Forecasts (HDRP)	30,000	30,000
		Total.....	233,000	
		% Revised Budget	47%	

[1] Projects (j) to (n) are all components of the Halifax - Dartmouth Regional Plan, Activities were assigned to separate projects for administrative ease.

2. Coding sheet design

A standard coding sheet was drafted to collect data from project files (see Appendix A). Section A applied to all projects and covered the following items:

- Project number and name.
- Department or organization responsible for implementation.
- Total estimated and revised budget.
- Authorization date.
- Stated objectives and their fit with general and specific program criteria.
- Contractual arrangements.
- Current status.
- Money spent as of January 31, 1981.

The implicit criteria and stated priorities for project selection were drawn from the Subsidiary Agreement for Planning and the attached Schedule A. General criteria apply to all three programs; the set of specific criteria differs for each. Coding the project's fit with criteria was mainly a subjective process. A sample of projects was completed by two coders to provide a check on consistency.

The focus of this stage is important to keep in mind. We were considering the apparent compliance with program objectives in the selection process based on documentation only. Actual compliance was addressed in project team interviews.

Section B of the coding sheet applied only to completed projects. Data of interest included:

- Project control -- completion of the project on time and on budget, general satisfaction of stated project objectives, return of money to the Planning Sub-Agreement.
- Outcomes and recommendations -- documentation of any known impact the study has had in terms of further studies, policy action or program implementation.

Since a separate file of unsuccessful proposals did not exist, our coding sheet did not attempt to identify documented reasons for rejection. These proposals were analyzed separately.

3. Data gathering

Section A of the coding sheet was completed for all 63 projects approved to January 31, 1981. Project briefs, terms of reference and project authorizations constituted the main data sources.

Section B was completed for 34 projects -- 28 formally complete and six considered effectively complete in terms of expenditure of funds and progress. Notes on project outcomes prepared by project team members, documentation in project files and information from DREE and DOD staff provided the necessary data.

C. SELECTION OF PROJECTS FOR INTENSIVE STUDY

By including effectively finished projects, we created a larger pool for sampling. Possible strategies for stratification included:

- By program.
- By large/small projects.
- By on-shore/off-shore activities.

A random sample of completed projects within each of the three programs was chosen because it allowed the evaluation to comment on the rationale for separate funding components. Stratification by size would have reduced the validity of such conclusions and would have required an arbitrary cut-off point for classification. An on-shore/off-shore split was not feasible; on-shore projects overwhelmingly predominate off-shore.

Sampling was done on a proportionate basis. Our proposal recommended a minimum of 15 projects for detailed examination out of an assumed total of 26 completed projects. To facilitate sampling, we increased the sample size to 17 by drawing 50% of completed projects from each program. Exhibit III-4 shows the actual projects.

The evaluation project team reviewed the sample and felt that it would allow for consideration of key questions.

EXHIBIT II-4. Sample of projects for intensive investigation

Program	No. of completed projects	50% sample	Selected projects	Project names
107601 (Physical and Resource Planning)	4	2	B	Resource Mapping
			E	N.S. Conversion/Expansion Study
107602 (Research and Studies to Investigate Development Opportunities)	24	12	A	Offshore Drilling Rigs
			E	District Hot Water Heating
			H	Office Locations Study
			I	Free Trade Zone
			K	Wood Burning Energy
			L	Techmarc
			O	Manufacturing Cost Comparison
			P	Shipbuilding & Repair-Market Analysis
			R	Regional Development Opportunity Identification
			Y	Sydney Metro Industrial Park
			FF	Management Training Needs & Promotional Strategy Survey
			JJ	EPA Avionic Facility
107603 (General Development Planning)	6	3	A	Input-Output Tables
			B	Construction Trades Inventory
			D	Travelways
Total:	34	17		

D. IDENTIFICATION OF OUTCOMES

The next stage of the study was the identification of costs and benefits for selected projects, as well as any general or specific implementation concerns. Actual contract costs were available from notes on outcomes prepared for the evaluation and from project files. Reports and other documentation were reviewed for compliance with terms of reference and indicators of potential benefits.

All members of each project team were invited to a group interview. Each individual contacted received a copy of our interview guide at least one week before the meeting. Those who could not attend the interview frequently forwarded their completed copy. The research team conducted 17 project team interviews lasting approximately two hours each. These interviews provided estimates of overhead and additional administrative costs, along with perceptions of project benefits.

Eight DREE and DOD project team members who were involved with two or more projects were also invited to attend a second, individual interview. The one-on-one sessions allowed respondents the opportunity to elaborate on specific departmental concerns related to our evaluation of process and outcomes. These interviews required between one and two hours.

Appendix A contains both the project team and the individual interview guide.

E. DATA ANALYSIS

Aggregation and analysis of data are primarily descriptive and fall into two categories:

- The implementation review -- an overview of program design and basic data on all projects, including fit with implicit Planning Sub criteria.

- More detailed analyses of the costs and benefits of the 17 selected projects.

Our approach to these assessments is discussed in more detail in the following chapters.

III

THE SUBSIDIARY AGREEMENT FOR PLANNING: IMPLEMENTATION REVIEW

A. INTRODUCTION

Analysis of program outcomes becomes meaningful only after examining what took place to produce those outcomes. Frequently, new government initiatives are conceptualized at a level which cannot weigh the practical constraints of day-to-day program delivery.

Evaluation literature has increasingly emphasized the need for implementation review as a complement to outcome evaluation. Our general approach follows guidelines developed by Patton (1978):

- Process evaluation -- focussing on the internal dynamics and operations of the program to understand its strengths and weaknesses. The process evaluation also traces qualitative and quantitative changes in a program and includes perceptions of participants.
- Effort evaluation -- documenting the quantity and quality of activity and the allocation of resources.

In this chapter, we examine both areas to provide a framework for interpreting outcome data.

B. THE PLANNING SUB PROCESS

1. Program components and funding

The Planning Sub includes three major component programs, each with its own sub-objectives and scope of possible activities. Exhibit III-1 summarizes this information and provides a breakdown of funds budgeted for each program.

In many instances, stated or implicit objectives are not readily distinguishable from potential activities funded under a program. These first-order activities/objectives often form the basis for the intermediate and long-term objectives associated with the Planning Sub as a whole and with the GDA, although some overlap does exist.

EXHIBIT III-1. Planning Sub program components

Program	Objectives	Possible Activities	Funding		
			Federal	Provincial	Total
Subsidiary Agreement for Planning	To provide a capability for undertaking studies and conducting planning required to identify and analyze economic and socio-economic opportunities in Nova Scotia. To develop strategies, programs and subsidiary agreements pursuant to those opportunities.	Studies and planning.	$2,500,000	$2,500,000	$5,000,000
Components					
Program I: Physical and Resource Planning	To assemble and analyze baseline data regarding the location of development projects. To provide information regarding broad, sub-regional development patterns and assessments of the socio-economic and environmental impact on development at different locations.	Land use studies. Assimilation of baseline data and information. Socio-economic and environmental impact studies.	750,000	750,000	1,500,000
Program II: Research and Studies to Investigate Development Opportunities	To provide the necessary background information and strategy for turning broadly defined development opportunities into job and income-creating activities. To attract investment by the private sector to Nova Scotia.	Technical feasibility and pre-engineering studies for supportive infrastructure and social infrastructure for specific opportunities.	1,500,000	1,500,000	3,000,000
Program III: General Development Planning	To increase the efficiency of the provincial government in undertaking development within Nova Scotia.	Investigation of basic economic and social research and analysis.	250,000	250,000	500,000

Each program description in the Agreement cites specific project applications. For instance, the General Development Planning program description specifically includes input/output tables as an essential project. A Coastal Zone Resource Inventory and Mapping project is cited for the Physical and Resource Planning program. Program II -- Research and Studies to Investigate Development Opportunities -- identifies a number of study areas in the Agreement: shipbuilding and ship repair, offshore drilling rig and platform design and construction, the Gateway Concept and the steel industry.

Virtually all of these identified areas have evolved into specific projects; some of the projects have, in turn, led the way to separate subsidiary agreements. These studies are definitely a minority of the total number of projects funded. But their identification suggests that the Planning Sub was guided by definite notions of areas requiring planning and development.

The Agreement does not formally state the rationale for the allocation of estimated funding for each program:

	Program	% of Total Estimated Cost
I	Physical and Resource Planning	30%
II	Research and Studies to Investigate Development Opportunities	60%
III	General Development Planning	10%

However, the underlying assumption was that potential projects under Program II were more directly linked with the overall objectives of the Planning Sub -- "to analyze economic and socio-economic development opportunities in Nova Scotia and to develop strategies, programs and subsidiary agreements to those opportunities" -- and with the overall goals of the GDA.

Exhibit III-2 shows that in terms of overall resources, the Planning Sub ranks lowest in total budget when compared to other Subsidiary agreements. And the relative cost to the province is highest. The Opportunity Identification Analysis and Promotion component of the Industrial Development Sub Agreement -- comparable in many ways to Program II of the Planning Sub -- had a level of funding ($2,850,000) similar to the Planning Sub as a whole.

2. Program structure

The Agreement calls for the Ministers of DOD and DREE to designate senior officials (in equal numbers) who would constitute a Management Committee. The mandate of this Committee is to oversee the planning and implementation of the programs and to assess the Planning Sub's progress and effectiveness annually. Section 5.5 allows the Management Committee, in turn, to establish sub-committees to prepare submissions and recommendations on all matters relating to the implementation of Planning Sub projects. These sub-committees include the:

- Co-ordinating Committee -- consisting of one representative from both DOD and DREE.
- Project Teams -- consisting of representatives from DOD and DREE, as well as other federal or provincial departments or outside agencies with an interest in the study.

Exhibit III-3 shows the actors and responsibilities at each level of the Planning Sub process. Descriptions of activities are based on program documentation and were confirmed in conversations with committee and team members.

3. Program model

a) Project approval

Our proposal included a draft Program Model to guide our approach to the study. This model is shown in Exhibit III-4. Although it captured the general activities and context of the Planning Sub, it could not include an important ingredient -- the specific basis on which projects were selected or rejected. Knowledge of selection factors is the key to understanding the link between activities and outcomes. If there is no rationale underlying the funding of projects, attribution of outcomes to the Planning Sub mechanism becomes difficult.

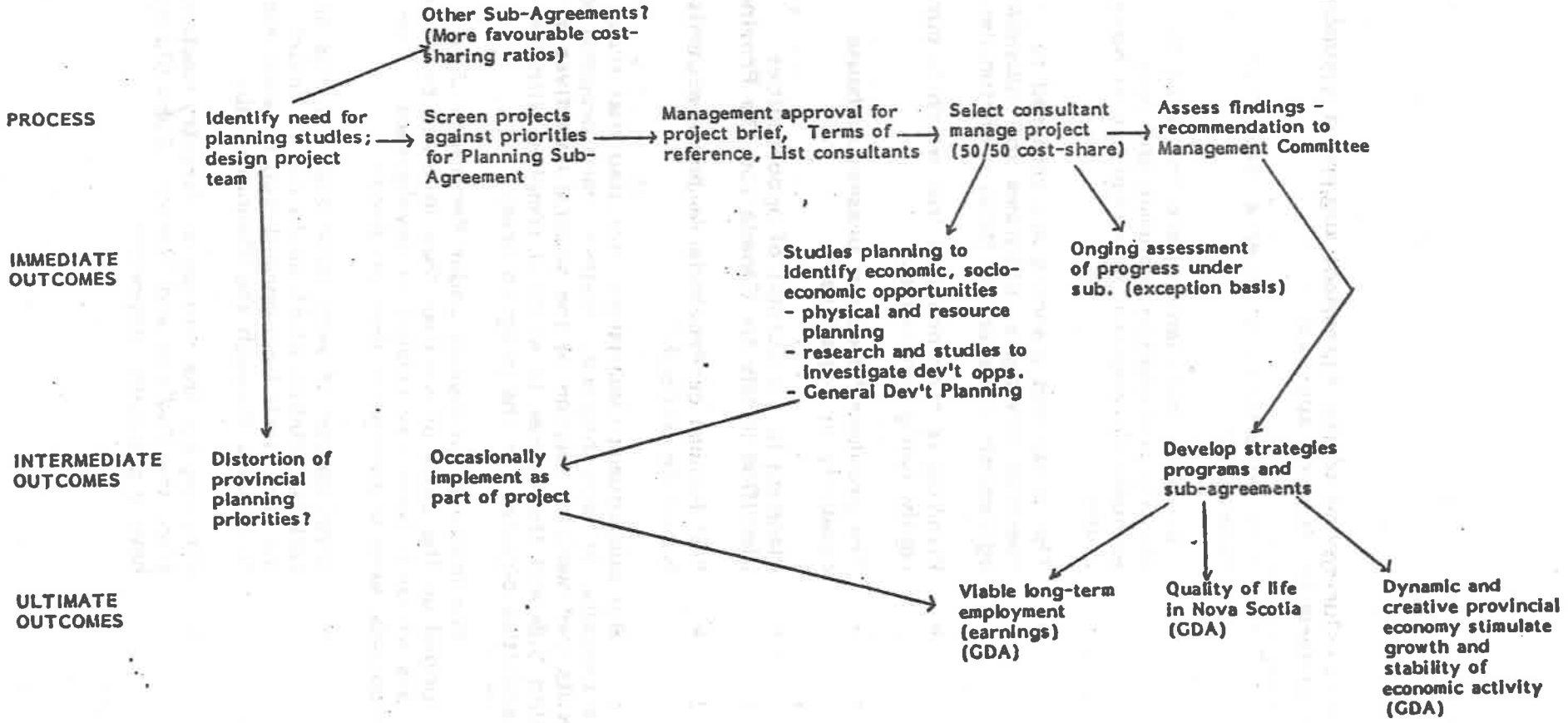
EXHIBIT III-2. The Planning Sub and other subsidiary agreements: relative funding and cost-sharing ratios

Subsidiary Agreement	Total Funding	Provincial/Federal Cost-Sharing Ratio
Planning	$ 5,000,000	1:1
Forestry	60,537,500	1:1.48
Agriculture Development	48,217,000	1:1.64
Metropolitan Halifax-Dartmouth Area Development	109,706,300	1:2.7
Strait of Canso Area Development	25,977,900	1:2.9
Energy Conservation	24,875,000	1:3.2
Tourism Development	13,750,000	1:4
Industrial Development	16,289,000	1:4
Halifax Panamax Dry Dock	43,500,000	1:4
Mineral Development	19,838,000	1:5

EXHIBIT III-3. The Planning Sub structure: actors and responsibilities

Level of Responsibility	Actors Involved	Responsibilities
Executive	Minister of DOD; Minister of DREE	▸ Designate members of Management Committee ▸ Authorize adjustments in cost-sharing ratio ▸ Review annual progress reports and evaluations
Management Committee	Senior officials from DREE/DOD	▸ Designate members of the Co-ordinating Committee ▸ Approve members of Project Teams ▸ Approve Project Briefs presented by Project Teams ▸ Authorize project funding and approve proposals/consultants selected by Co-ordinating Committee ▸ Approve any changes in project scope, costs and fund reallocation ▸ Approve level and type of report distribution ▸ Inform Ministers of anticipated program overruns and recommend proposed action
Co-ordinating Committee	One officer from DREE/DOD	▸ Attend Management Committee meetings ▸ Interdepartmental liaison regarding the initiation of new projects ▸ Ensure that project teams are in place for each new project ▸ Supervise the preparation of Project Briefs ▸ Recommend Management Committee approval of Project Briefs ▸ Monitor all projects and activities carried out under the Planning Sub ▸ Recommend to the Management Committee amendments and revisions to Project Briefs ▸ Recommend to the Management Committee the reallocation of funds between projects and programs ▸ Advise and inform the Management Committee of the progress and status of all projects under the Planning Sub ▸ Prepare cash flow and budget estimates of projects and programs under the Planning Sub ▸ Follow up on decisions made in Management Committee meetings
Project Teams	Representatives of: DREE/DOD Other federal and provincial departments or agencies concerned Private sector organizations concerned	▸ Prepare Project Briefs under the direction of the Co-ordinating Committee, including project description, cost estimates, funding, organization and management details ▸ Draw up terms of reference for projects and invite at least three consultants to tender ▸ Justify sole source tenders to Management Committee ▸ Evaluate and select contractors and consultants -- justify choice if not low tender ▸ Manage and monitor the implementation of approved projects ▸ Recommend to the Co-ordinating Committee adjustments or amendments to Project Briefs ▸ Prepare progress reports on projects ▸ Advise the Co-ordinating Committee in writing of all financial and policy decisions ▸ Provide copies of all contracts to the Co-ordinating Committee ▸ Recommend to the Management Committee, through the Co-ordinating Committee, whether work carried out is acceptable and the level and type of report distribution
Project Consultants	Private sector or quasi-public organizations or individuals	▸ Develop proposal in response to terms of reference ▸ If successful, carry out study on time and within budget ▸ Interface with Project Team members as required

EXHIBIT III-4. Planning Sub Agreement: draft program model



? Indicates outcome not anticipated in program

Our review of the Agreement suggested a number of implicit criteria for funding approval:

- Work undertaken is either a "study" or "planning."
- The study and planning are "required to identify and analyze economic and socio-economic development opportunities in Nova Scotia."
- The study and planning are required to "develop strategies, programs and subsidiary agreements pursuant to those opportunities."
- Planning is "additional to that which is currently being conducted."
- The province "does not possess in-house capability or expertise."
- Planning is "in pursuit of opportunities identified jointly by Canada and the Province."
- "All Federal or Provincial in-house expertise is/will be utilized."

But subsequent discussions indicated that these did not form a checklist in each instance. Rather, each proposal was judged on its own merit in relation to the general objectives of the Planning Sub and the degree to which it complied with the types of activities outlined for the program areas.

For instance, proposals under Program I were generally judged on the basis of whether they involved baseline resource data which in some way related to development. Program II proposals were supported if they involved:

- Investigation of very large opportunities or sectoral studies which could not fit under the Industrial Development Sub or were easier to process through the Planning Sub.
- Planning for the tourism or forestry sectors since the Tourism and Forestry Subs did not have a planning component.

- Planning support for the other proposed subsidiary agreements (e.g., the small shipyard and ocean industry studies).

- Studies which might lead to significant employment opportunities.

- Support for the provincial strategic plan as it was being developed (e.g., the Manufacturing Costs Comparison Study).

Program III looked for good theoretical work which would develop research tools.

A number of projects provided an impetus to the Planning Sub and, in essence, were pre-selected and approved as a formality, some under a retroactive clause.

The Planning Sub gained a reputation as a "first cut" type of funding vehicle with built-in flexibility. Proposals were tagged as low, medium or high priority in relation to current development interests. The few proposals which were rejected were poorly conceived in general rather than outside a set of specific criteria.

b) Relation to provincial planning activities

Our understanding of the Planning Sub process also benefited from positioning the Agreement within the context of other planning activities in the province. Three streams of planning can be identified:

- Short-term, ad hoc planning -- done throughout the system but primarily through the Policy and Economic Analysis groups and the Federal-Provincial Agreements section at DOD.

- Medium-term planning -- mainly by the Federal-Provincial Agreements and Policy Analysis sections, with some input from Economic Analysis.

- Strategic or long-term planning -- done primarily through the Strategic Planning section with some involvement by the Federal-Provincial Agreements group.

Our review of the Agreement suggested a number of implicit criteria. In the mid-seventies, the lack of long-term planning in the province became evident. The Strategic Planning group was subsequently formed and in 1978 was asked by the new government to establish a strategy with the private sector. After a number of sectoral reviews and fiscal studies, a draft strategy was discussed at length with the private sector. The resulting Green Paper released in May 1980 outlined an economic development strategy for Nova Scotia.

Phase II of this effort involves a number of specific action plans. Most of the research is being done internally by DOD staff, but a list of applications for funding under the Planning Sub (largely for Program III) has recently been put forward. Only one of the Phase I studies was completed under the Planning Sub -- the Manufacturing Costs Comparison. Minimal use of the Agreement to date has been a function of:

- Some sense of urgency to get the work done before the next election. Although an improvement has been noted, the approval route and involvement of Project Teams under the Planning Sub was viewed as a very time-consuming process three or four years ago.
- A desire to maintain an independent provincial view at the conceptualization stage.
- Perceived benefits of greater consistency and enhanced intellectual capital by having the work done internally rather than by consultants.

Now that the cast has been set, implementation of the strategy is focussing on more specific issues. And with less intense time pressures, the Planning Sub has become a more attractive alternative. The choice of the General Development Planning program for the list of proposed projects reflects the Strategic Planning emphasis on developing planning skills in the province. It also points to the perception that "hard" opportunity identification falls more appropriately under the Industrial Development Sub.

c) The Planning Sub and the GDA

Also of interest in refining our model is the link between the Planning Sub and other agreements in achieving the objectives of the GDA.

The role of the Planning Sub in relation to other subsidiary agreements is not well defined and has been discontinuous. Originally, it was intended to explore opportunities which could be developed into subsidiary agreements in their own right. But the bulk of this planning for new agreements was assumed by internal staff at DOD and DREE. A number of other sub agreements have planning components, while others do not and were apparently intended to rely on the Planning Sub for development work. This disparity probably relates in part to timing: earlier sub agreements included planning components, while those announced with the Planning Sub did not. But more recent agreements also present a mixed picture.

The overlap between the spirit of the Planning Sub, particularly Program II, and the Opportunity Identification component of the Industrial Development Agreement frequently recurred in discussions. A distinction between "softer" and "harder" planning has been suggested. But without a comparative study of the two components, it is not possible to say if and how this distinction was operationalized.

d) Revised program model

Exhibit III-5 presents a revised model of the Planning Sub which incorporates insights gained as the study progressed. This evaluation could focus only on intermediate outcomes. Sufficient time has not elapsed to measure most long-term objectives validly. Also, development of a methodology to operationalize and measure these impacts was beyond the scope of this study. However, our assessment of intermediate impacts should indicate the direction of long-term trends.

As well, an in-depth review of effects on other planning activities represented a diversion from the primary intent of the evaluation and its resources.

C. BASIC PROJECT DATA

1. Allocation of resources

Exhibit II-2 showed the status of projects to January 31, 1981. Total and average costs for these projects are provided in Exhibit III-6. In order to be consistent with our project selection process, we have applied the same decision rule in grouping "completed" projects -- that at least 90% of the allotted funds have been disbursed.

Review of this summary suggests some trends:

EXHIBIT III-5. Planning Sub Agreement: revised program model

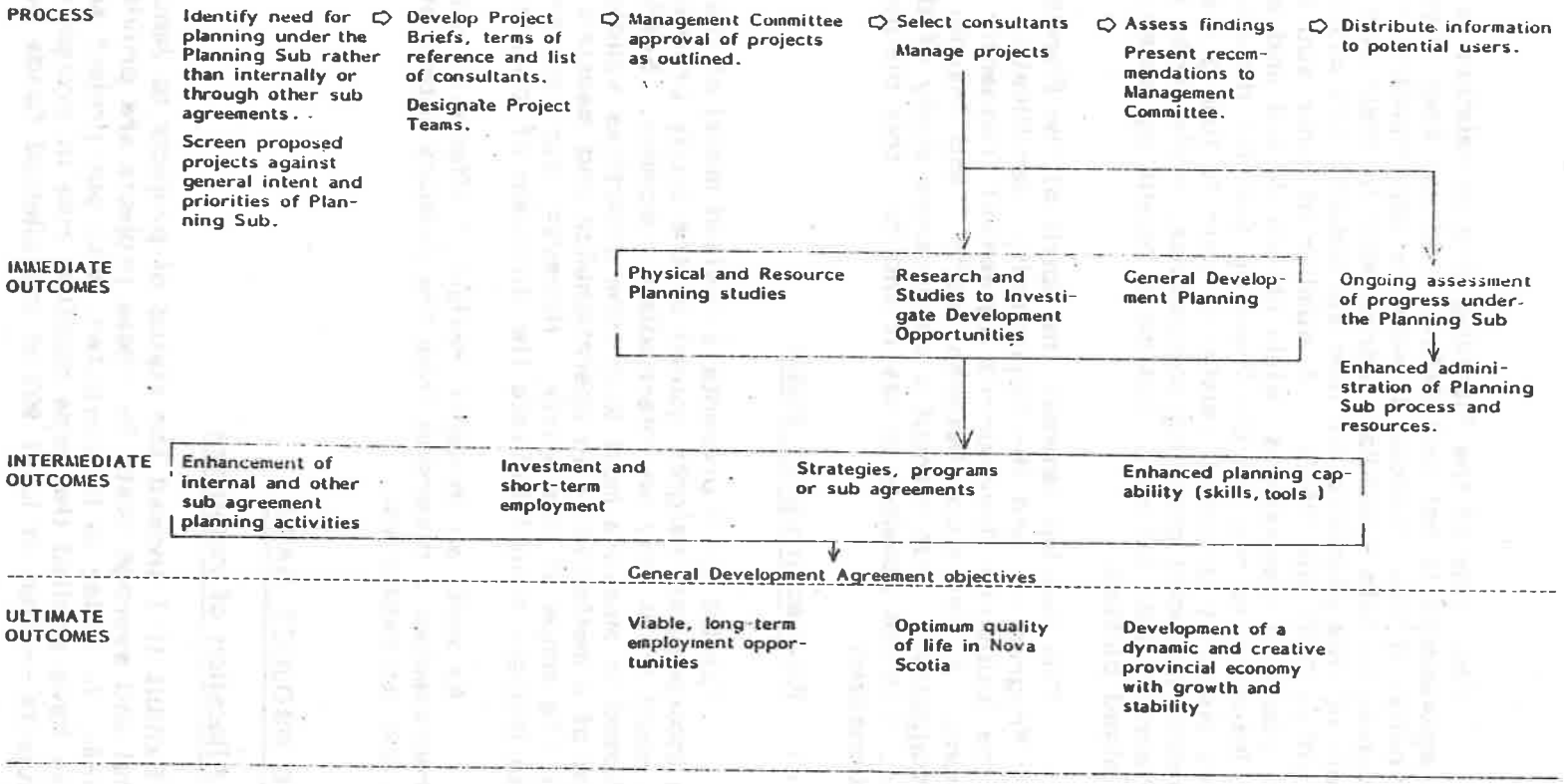


EXHIBIT III-6. Total and average costs by status of projects to January 31, 1981

	Total Costs of Approved Projects	Average Cost of Approved Projects	Average Cost of Completed Projects[2]	Average Cost of On-going and Approved-in-Principle Projects	Average Cost of Cancelled or Transferred Projects
Program 107601					
Physical and Resource Planning	$ 1,605,930 (1,440,423)[1]	$ 200,741 (205,774)	$ 287,982 (259,105)	$ 108,500 (same)	$ 50,000 (1 case only)
Program 107602					
Research and Investigation of Development Opportunities	3,174,443 (2,844,721)	77,425 (72,941)	67,413 (62,841)	83,773 (same)	122,049[3] (3 cases)
Program 107603					
General Development Planning	510,107 (469,877)	36,436 (36,144)	39,851 (39,479)	30,250 (31,250)	46,000 (1 case only)
TOTALS	$ 5,290,480 (4,755,021)	$ 83,975 (80,593)	$ 88,498 (81,807)	$ 72,013 (72,298)	$ 92,429 (5 cases)

1 ( ) indicates revised budget due to cancellation, transfer or adjustment.

2 Includes projects at least 90% complete in terms of funds disbursed.

3 Includes $146,147 for the Sysco Engineering study. Although the project was authorized at $700,000, the intention was to transfer it to the Sydney Steel Corporation Sub when it was signed.

- The average project cost has declined over the life of the Agreement. A number of large projects were funded at the beginning when the excess of resources over demand allowed a more unconstrained approach. As funds were allocated and the outcomes of earlier projects were assessed, the sophistication of funding decisions may have increased.

- Although the overall average cost declined, the average cost for Program II projects rose by 24% (33% with revised figures) while average project costs for Programs I and III fell by 62% and 24% respectively (revised -- 58% and 21%).

- The average budgeted cost for Program I projects is higher than Program II projects by a factor of 2.6 and higher than Program III projects by a factor of 5.5. These ratios rise to 2.8 and 5.7 respectively when revised budget figures are used.

- The average budget cost of cancelled or transferred projects was 10% higher than the average cost of all approved projects and 15% higher than the revised average cost.

- By January 1981, the three programs had committed in their revised budgets over 90% of the total program funding available. The revised figure is more realistic since it reflects the reallocation of funds from cancelled or transferred projects.

2. Economy and efficiency

The terms of reference specify that the evaluation should consider the quantity and quality of work carried out on projects. Our review of the 17 selected projects examined the project reports where applicable to determine whether the terms of reference were satisfied in each instance. These more detailed judgements of performance are discussed in Chapter IV.

But we also attempted to measure economy and efficiency for all projects as outlined in our proposal: by reviewing contracting procedures and project control data. This approach assumes that a competitive procedure and satisfaction of project targets reflects reasonable value for money.

a) Contracting procedures

Although the documentation of procedures prescribed competitive tenders with at least three consultants, a substantial number of projects were sole sourced. Exhibit III-7 shows the status of contracting procedures by program. No appreciable variance exists between programs.

Most Project Briefs or related documentation stated one or more reasons for approaching only one contractor or consortium of contractors. In order of frequency they include:

- Known expertise/reputation in the required skill areas.
- Previous involvement with the particular data set under study and/or completion of a directly similar or preliminary study.
- Initiation of the proposal based on experience in developing a specific methodology.
- Availability (usually combined with competence) in order to satisfy time constraints.

Most justifications fell in the first two categories and implicitly suggested a cost saving through avoiding a start-up phase. But few actually cited unique skills or experience as the basis of contractor selection. The following section highlights the project performance of completed projects and provides some input to assessing sole source projects.

Of the 17 selected projects the following three were non-competitive:

107602-E	District Hot Water Heating
107602-R	Regional Development Opportunity Identification
107603-A	Input-Output Tables

Our discussions of costs and benefits helps to indicate whether sole-sourcing was justified.

b) Project performance

Our review of project files also identified whether studies

EXHIBIT III-7. Contracting procedures by program

Program	Competitive Tender	Sole Source	Internal Staff	Not yet known or not applicable	Totals
Physical and Resource Planning	5	0	3	-	8
Research and Investigation of Development Opportunities	23	15	1	2	41
General Development Planning [1]	10	3	1	-	14
TOTALS	38	18 [2]	5	2	63

[1] Includes two projects with both a competitive and sole source phase.

[2] The total value of sole source projects is $999,896 ($999,832 revised) or 21% of the revised budget for funds allocated.

Sole source projects occurred in each year of funding: 2 in 1976, 3 in 1977, 2 in 1978, 4 in 1979, 2 in 1981 to date.

were completed on time and within budget, and whether they generally satisfied the terms of reference. This information was confirmed during interviews with the 17 selected projects.

Exhibit III-8 summarizes project performance data by program. "Unknown" cases include:

- Those which were 90% complete, but not at a stage where a judgement could be made.
- Those where project files did not offer conclusive evidence.

Although the numbers in each category are too small to warrant generalizations, some trends are evident:

- While several projects have exceeded the time allotted, most have been completed within budget.
- Project Teams which have received late reports have nonetheless been satisfied with the studies. Indeed, the project files rarely documented progress in terms of targets.
- Variability between programs appears to be minimal.

Of the 12 sole source projects which have been completed, over half have been delivered late, one has been over budget and all have been accepted as satisfactory by the Project Teams. The reasons for sole sourcing may have also led to a less structured approach which deemphasized deadlines. Nevertheless, this outcome raises some questions about the justification for not tendering competitively. Savings from shorter lead times and greater proficiency may have resulted. But the perceived advantages of the contractors selected did not seem to result in significantly increased efficiency. Despite this performance, the tendency to sole source did not decrease over time -- indeed, it increased somewhat in recent years.

3. Fit with program criteria

We learned during our interviews that compliance with a fixed set of criteria was not a part of the project selection process. Nevertheless, we undertook in our review of project files to compare proposed projects with the intent of the Planning Sub.

The Project Data Sheet included in Appendix A contains coding sheets for each program. The criteria listed were derived implicitly from the Agreement itself. General criteria were applied against all three programs; specific criteria related to individual program descriptions.

EXHIBIT III-8. Project performance for completed studies

Project Completion	Program I	Program II	Program III	Total
On time	1	12	2	15
Late	2	6	3	11
Unknown	1	6	1	8
Total	4	24	6	34
On budget	2	21	5	28
Over budget	2	0	1	3
Unknown	0	3	0	3
Total	4	24	6	34
Satisfied Objectives	4	17	5	26
Unknown	0	7	1	8
Total	4	24	6	34

Exhibits III-9 and III-10 show the results of our screening process. Interpretation was mainly subjective and quite loose due to the vague wording of the statements. Consequently, we caution against thinking of these data in more than a general, descriptive way.

Most projects seemed to comply with the general intent of the Planning Sub. But the rationale for including a project under the Planning Sub rather than in other economic planning exercises was often not evident (i.e., General Criteria 4-7). Matched against specific parameters for individual programs, projects under Programs I and III seemed to comply most closely with the key "criteria." However, the variability does not appear to be great. Overall, the trends reflected in these data tend to support descriptions of the project selection process by team and committee members -- that general fit with the intent of the Agreement was the primary benchmark. The Planning Sub is an enabling document for which implicit criteria have not become explicit criteria.

Again, these assessments relate only to the studies as outlined in Project Briefs. The following chapter provides some evidence on whether actual outcomes support the Agreement's intent.

4. Rejected, cancelled and transferred projects

a) Rejected projects

The approval process did not produce a substantial number of formally rejected projects. In most cases, only well-developed ideas went forward to the committee stage. Some proposed studies were re-routed to other departments or subsidiary agreements. Others have recently been rejected because of their demand on funds still remaining. Although poorly conceived studies have also been turned back, the lack of data on these projects prevented us from carrying out any discriminant analysis of successful and unsuccessful projects.

b) Cancelled and transferred projects

Five projects were cancelled or transferred after receiving authorization:

- Two went to newly signed subsidiary agreements for work on the Scotia Shelf Gas and Sydney Steel.
- The Industrial Development Sub assumed a project which involved focussed opportunity identification.

EXHIBIT III-9. Apparent fit between descriptions and implicit criteria: all programs

General Criteria	Program I			Program II			Program III			Total		
	Yes	No	?	Yes	No	?	Yes	No	?	Yes	No	?
1. Work undertaken is either a "study" or "planning."	7	1	-	40	1	-	14	-	-	61	2	-
2. The study and planning are "required to identify and analyze economic and socio-economic development opportunities in Nova Scotia."	7	1	-	39	2	-	8	6	-	54	9	-
3. The study and planning are required to "develop strategies, programs and subsidiary agreements pursuant to those opportunities."	6	2	-	39	2	-	13	1	-	58	5	-
4. Planning is "additional to that which is currently being conducted."	6	-	2	24	6	11	12	-	2	42	6	15
5. The province "does not possess in-house capability or expertise."	2	-	6	3	2	36	3	1	10	8	3	52
6. Planning is "in pursuit of opportunities identified jointly by Canada and the Province."	5	3	-	27	11	3	8	4	2	40	18	5
7. "All Federal or Provincial in-house expertise is/will be utilized."	3	-	5	18	13	10	8	1	5	29	14	20

EXHIBIT III-10. Apparent fit between project descriptions and implicit criteria: by program

	Yes	No	?
Program I			
(Objectives)			
1. "Assembly and analysis of baseline data and information regarding the location of development projects"	4	4	-
2. "Program will complement and utilize information from the resource survey programs in other sub agreements and ongoing activities of the Maritime Resource Management Centre"	4	1	3
(Possible Activities)			
3. Broad sub-regional development patterns	2	6	-
4. Assessments of the socio-economic and environmental impact on development at different locations	4	4	-
5. Studies dealing with land use	2	6	-
6. The assimilation of baseline data and information	8	-	-
7. Possibly environmental impact studies	4	4	3
Program II			
(Objectives)			
1. "To provide the necessary background information and strategy for turning broadly defined development opportunities into job and income-generating activities"	38	3	-
2. "Deals primarily with attracting investment by the private sector to Nova Scotia"	17	23	1
(Possible Activities			
3. Technical feasibility and pre-engineering studies for supportive infrastructure and social infrastructure -- "basic infrastructure, community development and social amenities"	32	9	-
Program III			
(Objective)			
1. "To increase efficiency of the provincial government in undertaking development in Nova Scotia"	13	1	-
(Possible Activities)			
2. Investigation of basic economic research and analysis	13	1	-
3. Investigation of basic social research and analysis	2	12	-

- A study which was only indirectly related to the intent of the Agreement was cancelled.

- Another project was cancelled because a participating provincial department could not get approval for its share of funding.

IV

SELECTED PROJECTS: COSTS AND OUTPUT

A. METHODOLOGY

This chapter provides an analysis of the outputs produced under the Planning Subsidiary and estimates of the costs of these outputs.[1] The diverse nature of the outputs of the Planning Subsidiary makes it unlikely that a single approach to valuing output will be applicable to all projects. This section describes our approach for dealing with the diversity of project costs and outputs.

For goods and services exchanged in the market, the standard economic measure of value is the willingness of individuals to pay. Transactions in the market provide us with a record of these values. For goods and services which are publicly produced or publicly contracted for, the valuation problem is more difficult. A frequent response to this problem is to assume that although most public outputs do not pass a market test, they do pass a political test. Under this rationale, their value to society is measured in terms of the costs of the inputs used in the production. In this evaluation, however, the objective is to provide information on the extent of the connection between cost and value.

1. Outputs of development and planning activities

A complete analysis of how subsequent decision-making was influenced by the various planning and development studies is beyond the scope of this project. We can, however, outline the framework within which our assessment of outcomes was conducted.

There are a number of difficulties involved in quantifying the benefits flowing from research and planning studies. Research information may be an element in subsequent decisions to develop new activities in a region. But it is never clear that the project would not have been undertaken in the absence of this information.

Information generated as a result of the Planning Subsidiary Agreement produces social benefits to the extent that it aids in improving subsequent planning and decisions. Development planning and related implementation activities may provide knowledge that cannot be acquired in other ways. Our analysis of project outcomes should therefore consider the range of possible uses of the commissioned studies.

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[1] Appendix B contains the project summaries on which we based our analyses.

Although information generates decision benefits, it is clear that there must be some stopping point beyond which the value of additional information is not justified in terms of the cost of producing it. Both the evaluation literature and the economics literature on this subject provide a guide to our review of projects.

2. How much information?

Braybrooke and Lindblom (1963) discuss the generation of information as part of the planning and evaluation process. Their view of the policy decision process is revealed in the following quotation:

> "Examination of policies proceeds through comparative analysis of no more than marginal or incremental differences in the consequent social states rather than through an attempt at more comprehensive analysis." (Braybrooke and Lindblom, p. 86).

This view of the decision-making process is termed "disjointed incrementalism." It corresponds closely to the standard marginal analysis of micro-economics. Its major contribution is to indicate that the "ideal" decision may involve unmanageable complexity, lengthy delay and excessive cost. A rational decision will differ from the ideal decision and the generation of information for better decisions will be governed by this set of limitations.

This view of information and decisions has its counterpart in the economics literature. The economic analysis of information can be divided into two categories.

The first category deals with the fact that acquiring all information that would affect a specific decision is not desirable even when information is available at zero cost: there still remain costs of processing and using the information. The second category describes situations in which information can be produced but due to diminishing returns, additional quantities of information are increasingly costly.

The economic solution to these two aspects of the information problem is simple. If we are concerned with efficiency, the appropriate response is to produce information until the marginal benefit to society from its production equals its social marginal cost. In the context of planning studies, the marginal benefit is defined in terms of the increased effectiveness of subsequent decisions.

In the economics literature, information like innovation, is subject to the problem that it is difficult for private producers of information to

capture all the benefits from the information which they produce. If this is the case, the social benefits of produced information exceed the private benefits and we would expect an under-investment of resources in the production of information (Arrow, 1962). Although this remains an area of active research (see Hirshleifer, 1973), we can conclude that the problem of appropriability leads to a rationale for the public production of information or for subsidies to private producers.

3. Some implications for measuring benefits

The preceding section describes a framework for assessing outcomes by measuring subsequent changes which can be attributed to the study. The framework is potentially operational but the cost of implementing it would be high. The framework does, however, suggest ways of looking at outcomes.

Consider as an example the Off-Shore Drilling Rig Construction Feasibility Study. The study provided data on a variety of factors influencing the viability of rig construction in Nova Scotia. These factors included minimum efficient scale, expected costs, demand and world capacity.

The study attempted to predict future drilling and drill rig construction and to assess whether this market could continue to be adequately serviced by existing suppliers. In addition to the question of whether a Nova Scotia construction facility was feasible, the report also assessed the relative merits of different locations within Nova Scotia.

The conclusions of the study were that the construction facility appeared feasible based on predicted supply and that there were two Nova Scotia locations which were attractive. The study also indicated that it did not appear that the existing Halifax Shipyard could be a viable rig builder and that the preferred course of action would be to create a new facility and use the existing shipyard exclusively for repair work.

Potential results or benefits of this study can be briefly indicated. The major contribution of this study appears to have been a clarification of the opportunities available for the construction of drilling rigs in Nova Scotia. A further benefit of this study appears to have been the information that it would not be desirable to try to alter the existing shipyard facility to accommodate a rig construction operation. As a result, a decision has been made that the existing facility should concentrate on ship repair. This benefit is defined in terms of the cost savings from not proceeding with plans to convert this facility.

Although we cannot directly discern the impact of this study on subsequent decisions, our framework suggests a hypothetical question as follows: what decisions would have to be affected by this study in order to justify the costs incurred?

The adoption of this approach to the problem makes the answer fairly clear. The development of off-shore oil and gas in Eastern Canada has suggested to a number of jurisdictions the possibility of providing service in construction facilities to this industry. It is quite certain that other provincial governments (particularly Newfoundland) have been actively exploring this issue so that the study appears well-founded in the economic circumstances of the region. It appears that the total investment of under $100,000 is justified in terms of potential benefits to be gained from the results of the study.

This approach can be extended based on the characteristics of other projects. If a particular project costs $X, we can ask what benefits could have been obtained from alternative uses of these funds in activities where the benefits are better known. For example, a hypothetical alternative to using funds for research is to directly use the funds as location subsidies. If we have an external measure of the subsequent impact of location subsidies, we can then ask whether it is reasonable to assume that the development study could eventually have the same impact.

Although this approach falls significantly short of a detailed cost-benefit study of projects, it is our view that this methodology can detect major differences among projects and will therefore be useful input into subsequent programs.

B. REVIEW OF PROJECTS: PHYSICAL AND RESOURCE PLANNING

1. Resource Management Mapping

a) Project outputs

This project was funded for the preparation of a new detailed set of provincial maps. These maps are intended to meet the analytical needs of the province in the areas of resource planning, management and protection.

The idea for the project came from the Department of Lands and Forests. The existing set of maps had been produced in 1954 but had become dated. The study was strongly supported by a number of other departments because of the usefulness of the maps in developing resource based industries.

b) Project costs

Total direct costs:	$170,000.00
DOD	$ 2,500.00
DREE	$ 2,000.00
Lands and Forests	$ 30,000.00
Total	$204,500.00

c) Assessment of benefits and costs

The study has not led directly to the development of other strategies or agreements but has provided up-to-date maps for all activities involving the use of reference maps. The Department of Lands and Forests has been the major user of the maps for forest protection and fire control. Geological overlays have been useful to the Department of Mines. A considerable amount of prospecting is going on in the province. The maps, which show mineral deposits, have been useful in the planning of mining operations. A further application has been in the area of agriculture. The planning of a grain facility in Kings County benefitted from the updated maps by being able to select the site with the best road network.

Quantification of benefits is difficult. For example, the savings in timber if a fire is put out quickly are considerable. The extent to which this outcome would be due to locating the fire more quickly on the newer maps is unclear. One perspective is to compare the cost of the maps to other means of fire control; a helicopter to survey remote areas is a significant cost item.

Planning maps produced in this project can be classified as an investment in information. It appears that this information is being used productively. The remaining question is whether the incremental benefits from using these maps instead of the old 1954 maps totals over $200,000.

These maps have been financed by a planning program so that the direct benefits should be calculated only in terms of the impact of the new information on subsequent development -- particularly rationalization of the resource sectors. Benefits such as their use in forest fire control are indirect or external and appear to accrue to largely to Lands and Forests. It seems that this department would have been the most logical source of funding in the absence of the Sub-Agreement.

It appears, therefore, that the supported activity has disbursed benefits which no single funding agency would have been able to capture. Although we have incomplete data on the actual utilization of these maps, our tentative conclusion is that this investment is favourable in terms of an excess of benefits over costs.

2. Nova Scotia Pulp Conversion Expansion Study

a) Project outputs

This project examined the feasibility of converting the existing Nova Scotia Pulp Limited (NSPL) bleached sulfite mill to a bleached hardwood craft mill.

An actual conversion or expansion project would protect the existing jobs of 2,000 workers at NSPL, as well as creating approximately 600 new jobs. The conversion is required as a result of the spruce budworm infestation which has attacked the existing source of supply for the NSPL mill.

b) Project costs

DOD/DREE shareable cost	$155,380.00
NSFI	$ 38,845.00
Administrative costs:	
DOD	$ 15,000.00
DREE	$ 75,000.00
Lands and Forests	$ 2,500.00
NSFI	$ 7,000.00
Other	$ 5,400.00
Total	$299,125.00

c) Assessment of benefits and costs

This study suggested that the proposed conversion was technically feasible but was not immediately economically viable. An independent study found that a second option of a wood burning boiler was more attractive and this project is currently underway.

It is difficult to relate the benefits from the boiler construction project to this study. Although this project appeared useful at the time it was started, the development of subsequent information meant that the results of this particular enquiry were less important.

From the perspective of the Nova Scotia economy, the major benefit of this study might be the intangible result of convincing the Swedish parent firm that it could work effectively with the Nova Scotia government. The study also permitted NSFI to develop a long-term approach to the impending decrease in softwood supply.

It is possible that the results of this study did expedite plans for the boiler which has led to investment in excess of $40 million, the creation of new jobs and some displacement of imported oil. We have not, however, been able to determine directly the connection between the results of this study and these benefits. We would conclude that this study can be classed as uncertain in terms of the balance of benefits and costs.

C. REVIEW OF PROJECTS: RESEARCH AND STUDIES TO INVESTIGATE DEVELOPMENT OPPORTUNITIES

1. Wood Burning Energy Study

a) Project outputs

The project output is a study of the economic and technical aspects of constructing a wood burning energy plant for industrial users in the Strait of Canso area. The study also investigates the extent to which the installation of such a facility might improve forest management in the area and provide other external benefits. The intended users of this study are public and private sector decision-makers concerned with possible construction of a wood burning facility.

The major finding of the study was that the proposed facility was technically feasible but was not economically viable. This was the case even when industrial spinoff benefits and the external benefits of improved forest management were estimated and included in the calculations.

b) Project costs

Prior to the receipt of bids, the project was authorized for an expenditure of $200,000. This was subsequently revised and the total cost of the project report was $188,283.

In addition to this direct cost there appears to have been substantial input from the members of the project team and from the members of the Advisory Group which was established to provide assistance to the consultants. The project team consisted of one individual from the Department of Development (DOD) and one from DREE. The Advisory Group consisted of nine individuals including an M.L.A. and representatives from:

- The federal Department of Energy, Mines and Resources
- Nova Scotia Energy Council
- Nova Scotia Department of Lands and Forests
- Nova Scotia Forest Industries
- DEVCO
- Nova Scotia Department of the Environment
- Nova Scotia Power Corporation
- Strait of Canso Industrial Development Authority

We have no direct estimate of the time costs incurred by all these individuals. But the time commitment for many of them appears to have been substantial. The DOD member of the project team (the Project Leader) was responsible for interfacing with the consultants, and extensive correspondence, as well as six meetings with the full project team. We judge that the addition of fully allocated costs for all participants would increase the project cost to approximately $250,000.

c) Assessment of benefits and costs

The study was not available on time and encountered extensive delays (about six months) in producing a final report. We are unable to assess the implications of this delay. The study had a slight overrun, but still fell short of the amount originally allocated before bids were received.

Both the project team and Advisory Group felt that the report:

- "Does not adequately deal with the future benefits to the forest, or the consequent economic benefits, resulting from the improved silviculture.

- Generally refers to the suggestion that the reduced availability of softwood chips due to the budworm could be offset to some extent as a result of the hardwood harvesting, but this potential benefit to the viability of NSFI has not been adequately quantified.

These difficiencies are probably not sufficient to alter the overall conclusion that after allowing for foreseeable benefits, the direct benefit-cost ratio is less than unity, and the project could not be recommended on economic grounds.

Even after inclusion of indirect benefits, the ratio is only slightly above unity, still very low compared with many other opportunities for investment of public funds." (Wood Burning Energy Study, p.1).

Their assessment also suggests that the study results might periodically be reviewed to determine whether changes in economic variables such as interest rates, labour costs or the price of oil have altered the pattern of benefits and costs sufficiently to transfer the project into the economically feasible category. It does not appear likely, however, that changes in variables other than the price of oil would have a major impact on economic viability.

Although we do not have in our project records a complete description of the oil price assumptions used in the project report, it appears to us that it would have been very useful to extend the calculations to indicate the price of oil that would be required in order to make the wood burning project viable.

Our project interview with DREE provided a further perspective on the benefits of the study. Apparently the DREE view is that the wood is more valuable as a feedstock in the pulp and paper industry than as a source of heat. In addition, there was also some concern that the project was too

large for the stated need and that if it were being funded today, it would be conducted on a smaller scale. In particular, the opinion was offered that the component of the report dealing with the technical aspects of power generation was excessively detailed. The study went almost to the extent of an engineering feasibility study for a project that would not be economically viable without very substantial public subsidies.

In the context of current energy prices, the DREE interviews suggested that other sponsors of similar studies might be more appropriate; the private sector or the federal Department of Energy, Mines and Resources, with its co-generation and renewable energy initiatives might undertake this study.

In summary, the benefits of the study (which indicated an unfavourable ratio of project benefits to cost) relate to the social savings from not proceeding with a bad investment. Private and public investments have not been made in this area; consequently it appears that inappropriate investment has been avoided.

Although it is much easier to raise such issues after the fact than before, one must wonder if the unfavourable judgement of a wood burning facility might not have been discerned at a lower cost. It appears that the economic evaluation and the technical evaluation proceeded simultaneously. But the economic results meant that much of the technical analysis was of limited value. Although the study generated positive benefits, we are not convinced that these benefits exceed the costs of production.

2. Off-Shore Drilling Rig Construction

a) Project outputs

The output of this project is a feasibility study for the construction of an off-shore oil drilling rig facility in Nova Scotia. The study provided data on a variety of factors influencing the viability of such an operation including optimum size, projected costs and world capacity.

The study attempted to predict future drilling and drill rig construction and to assess the capability of existing suppliers to meet the projected demand. The report considered a variety of sites (including the existing Halifax Shipyard) and indicated which of these appeared viable.

The study concluded that the construction facility appeared feasible based on predicted supply and that there were two Nova Scotia locations which were attractive. The study also indicated that Halifax Shipyards did not appear to be a viable rig builder and that the preferred course of action would be to create a new facility, using the existing shipyard exclusively for repair work.

b) Project costs

This project was funded for $127,130 but involved actual expenditures of only $86,737. The remainder of the budget was held in reserve to update the study when a decision was made to proceed more intensively.

In addition to the contract, both DOD and DREE incurred costs in the course of the project. The DOD cost estimate is $2,600 but this includes very low overhead allowances. A proper overhead allocation and the addition of DREE and other costs could put these costs in the vicinity of $10,000. This would increase total project costs to approximately $100,000.

c) Assessment of benefits and costs

The major contribution of this study appears to have been a clarification of the opportunities available for the construction of drilling rigs in Nova Scotia. Our project interview indicated that the quality of work performed was very high.

Although the study provided very useful information to DOD, the results of any study of this kind are very sensitive to changes in the world oil market. For this reason, a reserve fund was maintained in order to update the results.

A major benefit of the study was advising against altering the existing shipyard facility to accommodate a rig construction operation. As a result, a decision has been made that the existing facility should concentrate on ship repair.

The development of off-shore oil and gas in Eastern Canada has suggested to a number of jurisdictions the possibility of providing service and construction facilities to this industry. It is quite clear that other provincial governments (particularly Newfoundland) have been actively exploring this issue so that the study appears well-founded in the economic circumstances of the region. The study was reviewed by a well qualified project team and accepted by them. Our interview confirmed the perception of a high quality report. It appears that the total investment of under $100,000 is justified in terms of potential benefits to be gained from the results of the study.

3. Office Location Study

a) Project outputs

This project studied the office location decisions of firms. The methodology involved interviews of 55 firms to identify the factors influencing location choices. The ultimate objective of the study was to implement a strategy to increase office employment in Nova Scotia.

The background for this study involves a number of trends that have been observed in office employment in the United States. The movement to the South and West has been well documented. This project provided an analysis of the potential for similar trends in Canada.

b) Project costs

The total cost of this project was $50,000. In addition, DREE indicated direct costs of $1,633. The addition of indirect costs and other project supervision costs suggests that the total project cost was closer to $60,000.

c) Assessment of benefits and costs

Pinpointing project benefits is difficult. From a longer-term perspective, the benefits would be defined in terms of new firms attracted to Nova Scotia as a result of the information generated in this study. Since the output of the study is information, the extent of potential benefit depends on the extent to which the study is disseminated and acted upon.

Since the completion of the study, a number of regional offices have been established in Halifax. But this trend was underway prior to the completion of the study. In fact, the observation of this trend and a concern with how it might be influenced were important factors in commissioning the study. Our interview with the DREE officer who had been actively involved on the project team suggested that the study had no impact on these location decisions. Although the study was summarized in a regional publication, only a limited number of people have knowledge of the study or its contents.

This raises the important question of the dissemination of the results of studies of this type. The natural client for this type of study would appear to be Nova Scotia Industrial Estates Limited (IEL), which provides incentive grants to attract firms and operates industrial parks in the province, rather than DREE or DOD.

The stated project objective was to "recommend a program." This suggests that the project team should have involved an agency such as IEL at least as an advisor, if not as a program delivery agent. IEL's representation on the project team would have been logical. This case suggests that the future Sub Agreement might require a check list for members of the project team.

In addition to the questions of report distribution and the absence of an active client, the policy section of the report is not compelling. The survey work identifying important factors in a location decision appears good, but the policies that might be put in place based on this analysis are less useful. The DREE adviser on this project suggested that in retrospect, he would have preferred to contract only for the survey work on the determinants of the location decision and then pursue the policy implications internally.

The study has provided input into the drafting of the Industrial Innovation Subsidiary Agreement. The proposed value of this Agreement is $50 million, with $2 million potentially to be allocated to an Office Location Program. But until that Agreement is actually signed, assigning value to the study's input is conjectural. In the meantime, we judge that for the investment of $60,000, the benefits have been minimal.

4. District Hot Water Heating

a) Project outputs

This project was initiated by Nova Scotia Power and examined the possibility of using hot water or steam generated by the Water Street Power Station as a heat source for a number of buildings in Halifax. The hot water or steam would be a bi-product of the generators of the Water Street plant. It would be piped underground in a number of loops around the city. At each major installation, a heat exchanger would draw heat from the line and make it available in the building.

It was clear in 1975 that energy represented a significant and increasing cost in Nova Scotia. District heating had the promise of conserving energy, reducing reliance on off-shore oil and improving the efficiency of the power plant. A 1976 study of major companies indicated that some were quite vulnerable--Canso Chemical spending about 40% of its operating budget on power charges. The Energy Sub-Agreement did not exist at that time; from the DREE point of view, doing the project under the Planning Sub was appropriate. As well, the possibility for spin-off from the study was substantial. The technology of heat exchangers with steam or water superheated to 350° F supplying heat to buildings would be new in Canada. There were opportunities to develop new technology in metering as well. For these reasons, the project looked very attractive.

b) Project costs

According to Nova Scotia Power, the cost of the study was $105,000. This was shared as follows:

National Research Council	$ 50,000.
DOD/DREE	$ 22,500.
Nova Scotia Power	$ 32,500.
Total	$105,000.

In addition, the DREE project officer estimates approximately 80 hours of time; employees of Nova Scotia Power were estimated to have spent 840 hours. Direct time would account for approximately $12,500. If overhead is fully allocated, we can assume that the cost would rise to $20,000 or more. The total project cost would then be $125,000.

c) Assessment of benefits and costs

The study indicated that the hot water heating concept was viable. However, the project did not go ahead, since it required an $8 million investment by Nova Scotia Power and viability required potential users actually to convert to the new system. In the absence of an external financial guarantee, Nova Scotia Power was unwilling to bear this risk.

The study did not lead to any strategies, programs or subsidiary agreements. District heating was not undertaken as a project. Developments underway in 1976 which were potential users are now complete, each with its independent heating apparatus. A district heating project now would make much of that recent investment redundant. The combination of circumstances that initially made the project attractive has now passed. Therefore, the project recommendations will not be implemented.

The central output of the study was good operational information on district heating. The participation of NRC indicates that, in their view, the information generated on district heating would have benefits elsewhere. It is interesting to note that if the study was being done today, the federal Department of Energy, Mines and Resources would likely provide financial support. A key factor impacting on the project's outcomes was the apparent lack of commitment to follow-up on positive results. Since the project did not actually go forward, there are no direct benefits. However, the study did allow for risk aversion on the part of Nova Scotia Power. Whether the cost of the study balanced potential savings is uncertain.

5. Free Trade Zone Concept

a) Project outputs

The objectives of this project can be described as follows:

- To study the concept of setting up a free trade zone or zones within Nova Scotia and to make recommendations based on the study findings.
- To examine any legal or other changes that would be required to establish such a zone.
- To select the most suitable area of the province in which to locate the zone.

The results of the study were intended to assist the provincial government in developing policies to increase the use of the province's seaport and/or airport facilities and to increase foreign trade. A further anticipated result would be the creation of additional jobs in services, construction and possibly manufacturing.

The free trade zone concept had been a recurring topic of interest in the province and was being advocated by various people at the time. A paper had been prepared within DOD in 1977, but a more in-depth examination was needed. The project was initiated with particular support from DOD to provide an authoritative study of the issue. Both DOD and DREE viewed the question as a fairly high priority due to the public interest aroused by media coverage.

The principal objectives changed as the project was implemented due to the negative outcomes of Phase I. Since it was noted that Canada was essentially a free trade zone due to warehousing and export drawback arrangements, there was no need to examine implementation of the concept in more detail. Instead, Phase II examined the possibility of a publicly bonded warehouse in an industrial park. However, no specific attempt was made to promote investment by the private sector in such a warehouse.

b) Project costs

The total direct costs associated with the project report can be broken down as follows:

Phase I	$30,208.82
Phase II	$ 9,792.00
Total	$40,000.82

Departmental administrative costs were incurred by both DOD and DREE:

DOD	190 hours
DREE	190 hours

DOD has indicated that the direct costs of this staff time were $3,040. If we assume that a matching amount should be charged for overhead and that DREE costs were the same as those for DOD, then total costs can be calculated as follows:

Project report	$40,000.82
DOD	$ 6,080.00
DREE	$ 6,080.00
Total estimated costs	$52,160.82

c) Assessment of benefits and costs

The project was completed substantially within the allowed time and on budget. The project team expressed satisfaction with the consultants' performance.

The study served to dispel the notion that a formal free trade zone established in Nova Scotia would enhance economic development. Following the study, DOD proposed a strategy for a public bonded warehouse. The idea was not implemented because it was felt that this should be left to the private sector since the required public subsidy would be large.

Since a program or strategy has not directly resulted from the study, no employment or private investment outcomes are evident. The economic costs of implementing and policing a free trade zone were avoided, as well as the potentially thorny political process it would have necessitated. However, none of these costs would have been incurred without such a study, whether or not it was done under the Planning Subsidiary. Using the Planning Subsidiary apparently allowed the study to be done in more detail than it otherwise might have been. Whether a less detailed study would have yielded different conclusions cannot be determined.

The study has received wide circulation and requests are still being made for copies by the private sector, universities, Boards of Trade, ITC, other provinces and other groups with development interests.

The information has also been used in promotional discussions with other countries and by Nova Scotia Industrial Estates Limited. However, the extent of incremental benefit as a result of the information produced is unknown.

The evidence we have accumulated raises some questions about the value of the Phase I report. It is not clear that somewhat in excess of $30,000 was required to produce this information. Bonded warehouses exist in most jurisdictions and it should be relatively inexpensive to determine what trade activities can be undertaken within existing institutional structures. For these reasons we must express some reservations about the benefits of this study in relation to its total cost of over $50,000.

6. Inter-Regional Manufacturing Cost Comparison

a) Project outputs

This project addressed the cost competitiveness of manufacturing firms in Nova Scotia and the particular factors which impede the successful operation of a business in Nova Scotia.

The report considers the competitive position of Nova Scotia relative to locations in Ontario, Quebec and New England. It indicates that manufacturing input costs in Nova Scotia are competitive with those in other jurisdictions and are in fact lower on average than in Quebec or New England. The major cost disadvantage is related to the shipments of goods to major market areas, but this is an important problem only for commodities having a low ratio of value to weight.

b) Project costs

The costs associated with the project can be broken down into the following categories:

Basic project report	$50,000.
Cost of examining extra sector	$ 8,700.
Direct administrative costs (365 hours)	$ 5,475.
Travel	$ 1,200.
Total	$65,375.

c) Assessment of benefits and costs

The study was conducted for Nova Scotia Industrial Estates Limited (IEL) whose function is to attract industry to Nova Scotia. Although we would not expect firms to locate solely on the basis of this study, the results of a professional study could trigger firms approached by IEL to more actively explore the option of locating in Nova Scotia.

The results of the study can be used to dispel beliefs that location in Nova Scotia implies a cost disadvantage. The study has the further strength of indicating some cost differences among industries and could be used to designate industries upon which extra attention should be focussed.

It is our view that this study will prove to be useful for IEL. It may not directly lead to location in Nova Scotia but it will be of value if it increases the number of firms willing to seriously consider that option.

Although we cannot directly discern the impact of this study on business location decisions, our framework suggests the following hypothetical question: what decisions would have to be affected by this study in order to justify the costs incurred?

The adoption of this approach to the problem makes the answer fairly clear. The investment is likely justified if even a single manufacturing firm locates in Nova Scotia instead of elsewhere as an ultimate result of the study. This does not appear to be an unlikely result. In this and other planning studies, it is important to emphasize that by their nature, planning

documents will not have an immediate impact. We would expect their effects to persist for a number of years. Given this timeframe for the assessment of benefits, it appears that this study can be classified favourably in terms of the ratio of expected benefits to costs.

7. Shipbuilding and Repair: Market Analysis

a) Project outputs

The objective of this study were to pinpoint shipbuilding and ship repair market opportunities which the Nova Scotia industry could potentially capitalize upon over the next decade and to provide a market analysis framework upon which to develop individual corporate business plans and a market strategy.

The study aimed at developing a plan to revitalize the small ship repair industry and it was meant as an introduction to a new subsidiary agreement. The major aspect of the report was to be a market demand study which would focus on a variety of factors influencing demand ,such as licensing practices, tax provisions and regulations on the importation of used boats. The document was to yield a limited number of scenarios which could be used by the yards in the development of their plans.

b) Project costs

The direct and indirect project costs can be broken down as follows:

Project report	$ 95,990.
Administrative costs:	
DOD	$ 6,000.
DREE	$ 4,000.
Total estimated costs	$105,990.

c) Assessment of benefits and costs

The project was initiated by DREE to update market information for the development of a Subsidiary Agreement for small shipyard development. A previous,more extensive marketing study completed under the Planning Sub in 1976 had addressed both ends of the ship repair market. DREE preferred to obtain updated information with a narrower focus. The study was completed on time and within budget.

A Subsidiary Agreement for the small shipyard industry is about to be signed. There was some delay in reaching this stage because it ranked lower in priority than other proposed agreements. In the meantime, small shipyards have continued to approach DOD for assistance. The information

produced by the study contributes to the allocation of these funds and was used extensively in drafting the new Agreement.

The study has also led to the strategy of assisting yards with business planning. Although no major initiative has been launched to date, the yards which have undertaken the business planning exercise have become more knowledgeable about market demand. However, the value of this information has been diminished by the lack of major capital assistance. The small grants have helped with minor improvements; however, 75% of the capacity is needed on the South Shore, which has only about 20% of existing capacity.

To date, no long-term employment or private investment can be linked to the study. However, the potential may have increased since the study was done. When the study was undertaken, it was clear that with the 200 mile limit, more fishing would be done by Canadian boats. This would improve the demand for boats and also the demand for maintenance. Since then, the off-shore developments have raised a separate set of demands for service boats to be constructed and maintained. This off-shore demand was speculative when the study was done two years ago.

The key benefit of the study has been the assembly of important background information. The costs of the study will be justified if a subsidiary agreement implements a strategy to meet the identified demand. Shipyard use of the information has been minimal; an updating will probably be required for future use.

In spite of the delay in producing a new agreement, the imminent strategy which relied heavily on this project's outcomes lead us to judge it favourably.

8. Sydney Metropolitan Industrial Park

a) Project outputs

The purpose of this study was to assess the need for a new industrial park in the Metropolitan Sydney area. The impetus for a study came from the Cape Breton segment of the Nova Scotia Voluntary Planning Group.

The study is still being assessed by a Study Committee in the City of Sydney and by a Voluntary Planning Committee. The report indicated a need for another park, but some of the prime sites suggested were outside the boundaries of Sydney. The Study Committee is developing a counter-proposal which would locate the site within the city boundaries. There appears to be some disparity in the sense of immediacy of those involved. DOD and DREE view the study as a tool for planning purposes rather than as a means of selecting a site immediately. Those individuals with more local interests appear to disagree.

b) Project costs

The total cost of this project increased relative to initial expectations for two reasons. First, there was an increase in budget size authorized by DOD. Second, there was a cost overrun by the consultants. Total direct and indirect costs from the point of view of society can be calculated as follows:

Original contract cost	$ 32,000.00
Authorized budget increase	$ 3,500.00
Consultant cost overrun	$ 6,344.57
Administrative costs:	
DOD	$ 1,000.00
DREE	$ 4,950.00
Total	$ 47,794.57

c) Assessment of benefits and costs

The report was approximately three months late and was significantly above the original budget. It did, however, appear to meet the stated objectives of the study.

The report provided information on the potential demand for space in industrial parks and on the costs of developing new park facilities relative to the costs of expanding the existing site. The planning horizon of the report is 20 years.

As indicated above, it is not yet possible to assess the role of this report in the decision to expand the existing facility or construct a new one. The recommendations of this report are still being debated and some further options are being considered by the City of Sydney Study Committee. Although no action has been taken to date, an indirect effect might be some sense of stabilization for planning purposes among Sydney businesses. There are many potential users of this report (e.g., DEVCO, IEL and others).

From the project materials which we have assembled, it appears that there is an active interest in expanding industrial park facilities in the Sydney area. Given this interest, information on the demand for space and the costs of alternative sites would appear to provide benefits for both private firms and the various government agencies involved. The report adequately compares a variety of alternative sites after demonstrating the need for further space.

For the report to be a wise public investment, the value of the information must exceed the cost of production. Given the large scale expenditures involved in creating an industrial park, the decision benefits of high quality information would be expected to be high. We would conclude, therefore, that the production of this information is a socially desirable use of public funds implying an excess of benefits over costs.

9. Management Training Needs and Promotional Strategy Survey

a) Project outputs

This project was intended to assess the needed skills areas of Nova Scotia management and to develop an appropriate management training and development strategy to meet those needs.

The survey data were delivered in the form of 151 aggregate tables and 2,500 cross tabulations. The project team received two copies of a two volume report totalling 1,005 pages of tables. The consultants were not required to produce a written report analyzing the data and their policy implications.

b) Project costs

Direct project cost	$14,046.00
Administrative costs:	
DOD	$17,050.00[1]
DREE	$ 1,050.00
Total	$32,146.00

c) Assessment of benefits and costs

Policy Board, an advisory group to Cabinet, has used the survey results extensively in drafting recommendations to government. These recommendations include a radical restructuring of the delivery of management training programs in the province, as well as a reorganization of the administration of the Atlantic Management Institute. Promotion of management training would be enhanced, with officers throughout the province liaising with business groups. It has also been suggested that management training be a criterion in reviewing applications under DREE programs. It is hoped that implementation of these recommendations will have a wide ranging impact on management training in the province and therefore on productivity.

[1] Includes estimate of $16,000 for salaries of summer staff who carried out the survey.

Although the project report did not contain a written analysis of the data, the province has subsequently funded a follow-up study to produce a written report. The first draft of this report is presently undergoing revision. It will be widely distributed to management training organizations and will assist in formulating management training strategies. The data are available to the general public, offering an easy-to-access research tool.

The study's results will also provide input to the negotiation of a new Regional Manpower Training Agreement or to a management training component in the second generation Industrial Development Subsidiary Agreement.

Employment and investment impacts can only be projected if it is assumed that the study will enhance management training and increase productivity. The major benefit of the study to-date has been its use as a planning tool for policy makers in reviewing the effectiveness of existing agencies and providing input to policy recommendations.

This project appears to have generated a substantial quantity of data of potential benefit to a variety of government departments as well as to independent researchers. The expenditure required to produce this data base was relatively modest. It appears from its use to date that benefits exceed the costs of producing this information.

10. Eastern Provincial Airways - Advanced Technology Avionics Facility

a) Project outputs

The funding for this project was used to assist Eastern Provincial Airways (EPA) in responding to a Solicitation of Interest issued by the Department of National Defence and the Department of Supply and Services.

The ultimate project involved the construction of an advanced technology avionics facility in support of the Canadian Forces CP-140 Aurora aircraft. The information produced was for EPA and the project output can best be described as the EPA submission in response to the Solicitation of Interest.

b) Project costs

DOD	$ 35,000.00
DREE	$ 35,000.00
EPA	$ 17,500.00

Administrative costs:

DOD	$ 450.00
DREE	$ 3,600.00
Travel	$ 2,000.00
Total	$ 93,550.00

c) Assessment of benefits and costs

The study has not had any direct impact to date. However, along with other activities, it may have contributed to the decision to locate the facility in Nova Scotia. Although EPA was not successful in its response to the Solicitation of Interest, the decision to locate in Nova Scotia may result in up to 300 high-paying jobs, a $100 million facility and an environmentally clean industry. However, it may be two years before these benefits are realized.

EPA would not have carried out the feasibility study or subsequently responded to the Solicitation of Interest without the support of the Planning Subsidiary. As a result of this study, EPA has become more aggressive in areas that were previously considered to involve higher technology than the firm could handle. EPA's expansion of its training facility may also have been based to some extent on the information provided by the study.

A link may exist between the EPA study and the push to locate the facility in Nova Scotia, but the extent of this influence is impossible to identify.

In the case of this project, it is not possible to assess benefits. The work actually undertaken is largely confidential. The major apparent benefit would appear to be in generating interest in the construction of this facility and mobilizing pressure to have it located in Nova Scotia.

11. Nova Scotia Technical College Marine Applications Research Centre (TECHMARC)

a) Project outputs

The project report consisted of a feasibility study of

locating a major marine research centre in Nova Scotia. The study indicated that markets either did not exist or were already well serviced for some of the potential products of this centre.

The report also indicated that although such a centre might cover its operating costs, it would have to rely on government for the large fixed cost.

b) Project costs

Total direct cost:	$ 17,850.00
Administrative costs:	
DOD	$ 500.00
Total	$ 18,350.00

This is an underestimate because we have no record of DREE costs for this project.

c) Assessment of benefits and costs

The project team felt that this was a successful application of the Planning Sub Agreement. The project was of relatively limited scope and was able to assess the feasibility of the proposed centre without the production of costly detailed plans. The major benefit of the study appears to be its clarification of the issues involved. Specifically, it demonstrates that TECHMARC would require significant public subsidy -- i.e., it could not be independently viable. We judge that this is a reasonable benefit for the limited costs involved.

12. Regional Development Opportunity Identification

a) Project outputs

This project can be classed as a feasibility study for a subsequent major planning and development project. Different organizations were invited to submit reports which would identify new approaches to determining industrial opportunities. These reports would then be used to draft the terms of reference for a larger study.

b Project costs

Direct project costs	$ 5,000.00
DOD	$ 750.00
DREE	$ 5,250.00
Other	$ 1,000.00
Total	$ 12,000.00

c) Assessment of benefits and costs

The consultants' proposals were used to determine the approach, sector and contractors for Phase II of the study - the Economic Activity Complex Study funded at $110,000. Approval for $90,000 more for actual development activities is subject to evaluation of the approach. Data from Phase II of the study was used to produce a medical health vector for the Input/Output Tables. However, since implementation has not yet followed the project to date, no employment or investment impacts can be linked to the study.

The study provided insights on how to approach opportunity development on a sectoral basis and identified some private sector interests in the medical health area. If a sub-agreement evolves from Phase II, it would not require much economic impact to justify the costs of the Phase I study.

Although it would not require much actual activity to justify the modest costs of this project, some of the approaches suggested are open to question.

The project results and recommendations include, for example, the following points. First, it is suggested that a successful strategy for identifying industrial development opportunities in Nova Scotia must take into account the multiplier effect in terms of indirect stimulative effects on employment and income. Second, it is argued that continued encouragement of existing firms in the province is preferable to an approach which focusses on attracting those firms which are not from the region.

In both cases, serious questions can be raised if one is concerned with the incremental impact of regional development policies. Much of the debate about the appropriate value of the regional multiplier revolves around the extent to which estimated second round effects are, in fact, incremental. Similarly, in the case of expansion by local versus non-local firms, the argument has been made that the activities of firms outside the region are more likely to be incremental than would be the case for local firms. This is particularly true if economic activities are viewed in a longer-term framework (i.e., regional policies may only be buying earlier expansion by local firms).

These are, however, points which are still the subject of debate. Phase III has not yet been implemented. In summary then, this project may well generate net benefits but, until the follow-up project is completed, we cannot with certainty conclude that this is the case.

D. REVIEW OF PROJECTS: GENERAL DEVELOPMENT PLANNING

1. Travelways System Evaluation

a) Project outputs

The Nova Scotia Department of Tourism in 1973 designated a travelways system to link the tourist regions together and to encourage travel to other than the traditionally popular areas of the province. This project was intended to evaluate the amenities of the proposed system and to formulate proposals for improving the system in Cape Breton.

During the course of the project, two new travelways were established. Once the travelways were designated, local groups of people identified day trips from major centres on the travelway. The objective is for operators to retain people for additional overnight accommodation. Once the local people had described the day trip, the tourism planner and the writer would review the work, review the day trip and help produce a brochure describing it.

Additional travelways or sections of travelways have been identified and will be officially designated and advertised when necessary work has been completed. For example, one section of the Fleur-de-Lis Trail is not paved and has no local services available. The study has helped the department resist local pressure to open that part of the travelways, preferring to wait until the necessary infrastructure has been provided.

b) Project costs

The total direct cost for the project was $19,258. Administrative costs for four people including one full-time for six to seven months total approximately $10,500 with no allowance for overhead. Adding overhead to the time costs would raise the total project cost to approximately $35,000.

c) Assessment of benefits and costs

Long-term employment is extremely difficult to attribute to a study such as this. No attempt has been made to identify an employment impact.

The key benefit of this study was to produce a clear statement on the anticipated routing of new travelways and the priorities for infrastructure required to complete the travelways. This has allowed

the department to respond to local pressure and forestall arguments from local interest groups wishing to see their particular section of road included in the travelways. A secondary benefit has been a priority list of improvements that will be necessary for the travelways to realize their potential and, indeed, to be officially proclaimed.

The project team included representatives from DREE, the Department of Tourism, the Department of Transportation and DOD. This team was unanimous that the study was warranted and that it was a good investment.

In discussions with the project team, similar development plans completed five years ago were discussed. The members of the project team pointed out that some of the ultimate results of these planning activities were just starting to be observed now. That is, planning studies often have a very long gestation period. It will, therefore, take a considerable amount of time before definite conclusions can be reached. But our preliminary evaluation would lead us to classify this project as favourable in terms of benefits and costs.

2. Updating Input-Output Tables

a) Projects results

This project funded updating of provincial input-output Tables from 1965-1974. In addition to the work involved in actually constructing the Tables, the project included the preparation of a manual to explain the operation of the Tables and to indicate their research and planning capabilities.

Following the updating, the Tables were used to develop impact simulation models and to perform an analysis of economic growth in Nova Scotia between 1965 and 1974.

b) Project costs

Total direct costs:	$107,770.44
Administrative costs:	
DOD	$ 12,000.00
DREE	$ 6,000.00
Other costs	$ 500.00
Total	$126,270.44

c) Assessment of benefits and costs

Input-Output Tables are the only existing data bases which can be used to trace the indirect effects of a change in the economic system. Their major limitation is that they impose the restrictive assumption of no changes in relative prices. Although this is not a serious problem for short-run analysis, the more outdated the Tables become, the less useful they are. This is particularly true when important relative prices (such as the price of energy) are known to have changed. For this reason, if I-O Tables are to be a useful analytical tool, the expense of maintaining them must be incurred.

Users of the I-O Tables include DOD, APEC, DREE, and IEL. The Tables are used, for example, by DREE to carry out impact analysis of potential employment and income generation when a firm applies for a grant under RDIA.

Input-Output Tables are an important and widely used analytical tool. Their usefulness requires a continuing investment in updating. The existence of substantial DOD and DREE projects in Nova Scotia for which these Tables are potentially valuable suggests to us that the benefits of this study exceed its cost.

3. Feasibility Study For a Construction Trades Inventory in Nova Scotia

a) Project outputs

This project consisted of a feasibility study of establishing and maintaining an inventory of construction trade skills for Nova Scotia. The feasibility study attempted to determine if the potential benefits of such an inventory would be justified in terms of the costs of constructing and maintaining the system. The expected long-term results of such a system would be improved manpower planning in the construction industry and more effective training and apprenticeship programs.

b) Project costs

Total direct costs:	$ 21,000.00
Administrative costs:	
DREE	$ 45,000.00
CEIC	$ 5,000.00
Labour Canada	$ 15,000.00
Total	$ 86,000.00

c) Assessment of benefits and costs

The cost structure of this project is striking in that the cost incurred by the different departments of government greatly exceed the DOD/DREE total shareable cost. These costs do not include any estimate of DOD indirect costs and also do not include any costs incurred by the private sector in participating in the study.

The feasibility study concluded that the Construction Trades Inventory was a worthwhile project which would require close cooperation among government, management and labour in order to derive maximum benefits from it. As a result of this judgement, Labour Canada and CEIC proceeded with a $40,000 project.

An accurate assessment of the value of this project would require interviews with users of the data system to determine their perceptions of its usefulness. In general, occupational supply and demand projections in other jurisdictions have not been noted for their accuracy. We have not been able to discern whether this is the case in Nova Scotia.

The direct project costs were relatively low and different levels of government found the results sufficiently compelling to proceed with the actual inventory system. There are potential benefits, particularly in the context of major construction projects, from an up-to-date inventory. The Construction Trades Inventory would not have to be used often to cover the modest costs of this study. Indeed, it has been used in a number of simulation studies (e.g., dockyards construction), providing labour information to project planning. As well as avoiding potentially costly scheduling errors, its availability has avoided the costs of identifying labour supply on a project by project basis. The inventory has also provided input to the Canada Manpower Training Program.

Like input-output analysis, a construction trades inventory is a static system that requires continual updating to be useful. It is our impression that updating of the inventory has not been consistent. Indeed, an update had to be carried out as part of the Scotia Shelf study before the data could be used. With this kind of reservation in mind, we would judge this project as favourable based on its use to date.

V

THE SUBSIDIARY AGREEMENT FOR PLANNING: AN OVERVIEW AND RECOMMENDATIONS

A. IMPLEMENTATION OF THE AGREEMENT

In Chapter III, we reviewed the Planning Sub's design and resources. Specifically, our discussion touched on:

- The structure of the Agreement - its components, objectives, level of funding.
- Program design - levels of responsibilities, flow between activities and expected outcomes.
- Allocation of resources among program components.
- Compliance with implicit or explicit criteria for approval.
- Efficiency and economy in project performance.

In general, we found that while most projects related in some way to the general intent of the Agreement, the lack of specific criteria for reviewing proposed studies resulted in a great diversity of rather unrelated projects. This may have evolved in part due to a change in the Planning Sub's role after it was implemented: internal staff at DOD and DREE took over responsibility for the preliminary work on new subsidiary agreements.

This development, combined with the basically subjective approval process, meant that the Planning Sub became something of a "catch-all" funding mechanism more likely to lead to specific projects than to new agreements.

The province's parallel development of a strategic plan also weakened the potential for the Planning Sub to play a major role in comprehensive, long-term planning. Now that this framework is in place, there is greater provincial incentive to use the Planning Sub as a means of carrying out specific action plans.

The initiation of projects was fairly evenly split between DREE and the province. There is some indication that studies initiated by the province tended to be more specific and less conceptual than those

originating with DREE. It appears that federal initiatives have increased as both governments have established a working relationship with respect to prerogatives. Projects are generally judged on merit regardless of origin.

Joint management of projects under the Planning Sub was valued by both sides because it frequently provided credibility and a push for projects which might not have been supported by one or the other. The trade-off was some times delay in moving a project through the system, particularly on the provincial side in obtaining Management Board approval. Also, the Project Team structure calls for many meetings and usually results in at least one team member without previous experience in that role. However, as more people have become involved with Planning Sub projects, and as the efficiency of committee members has increased, advantages of the joint approach outweigh the disadvantages.

In some cases, Project Team members may not have been the natural clients for the study in terms of follow-up potential. But overall, the matrix approach to administering the Agreement seems to have been efficient in terms of assigning project supervision responsibilities based on expertise and mandate.

In some ways the Planning Sub may have experienced fewer implementation difficulties than other agreements. The flexibility of the Agreement allowed a good deal of the preliminary work to be done informally. Indeed, one committee member interviewed ranked it the best in terms of efficiency when compared with eight other subsidiary agreements he had been involved with.

Much of the credit for streamlining the process goes to some of the key people who have been involved with the Planning Sub. Strong support for planning and timely preparation of background documents have served to expedite the Management Committee process.

Complaints over the process centre around the necessity of preparing lengthy, formal Project Briefs on the first round of approval and sense of detachment from Management Committee and its priorities. But these were not strongly prevalent criticisms.

Although documentation suggested some concern over lapsing funds in 1978, the Planning Sub is now at the stage where it appears that all funds could easily be allocated before its expiry date. The average project cost for Physical and Resource Planning studies has far exceeded the average cost of projects in the other two programs. This factor should be weighed in the interpretation of outcome data and their input to drafting a second generation agreement, particularly in light of the substantial budgets for resource-based subsidiary agreements.

Economy and efficiency indicators suggest that project control measures have not been ideal. Many contracts were awarded on a non-competitive basis with little documented evidence to justify this route. Indeed, many of these studies delivered reports late, raising questions about maximum value for money.

Overall, implementation of the Planning Sub has suffered somewhat from a "chicken and egg" problem. The lack of precision in defining the Agreement's role has in turn led to a lack of precision in selecting projects. As a consequence, a number of exploratory studies have evolved which have not been linked with expected outcomes or follow-up. This open net kind of approach, while perhaps valuable in terms of its flexibility, may have prevented a more systematic method of selecting projects, choosing contractors and monitoring performance.

B. SELECTED PROJECTS: ARRIVING AT COSTS AND BENEFITS

Chapter IV examined costs and outputs for 17 selected projects in three related programs. These projects were extremely diverse and therefore it is difficult to arrive at a summary judgement which would compare the results of different projects. We will first indicate some of the limitations of the analysis we conducted and then briefly describe the results.

1. Limitations of the analysis

There are limitations to the analysis that we have presented on both the cost and output sides. On the cost side, we have not captured all of the costs associated with the commissioning, monitoring and reviewing of projects. In some cases, the individuals who were directly involved in the project could not be interviewed and we were therefore unable to accurately determine the extent of departmental costs. In other cases, we were given estimates of hours with loose guidelines for the direct cost per hour and even less guidance on the appropriate allocation for department overheads. In other cases, we were given estimates of overheads that appeared somewhat low.

In our calculations of project costs, we have estimated costs when only hours were given and we frequently adjusted overhead allocations if they appeared excessively low. For most projects, however, the important costs were the shareable costs under the program so that the cost adjustments discussed here turned out empirically to be not extremely important. It remains the case, however, that virtually all of the cost estimates remain underestimates.

The major difficulty, however, was not on the cost side but rather involved the assessment of benefits. Since the majority of the projects involved were research or feasibility studies, it is clear that in principle their benefits can be calculated in terms of their influence on subsequent decision-making. In practice, this raises two difficulties. First, it would be extremely expensive to attempt to trace out the impact on subsequent decisions of 17 projects. Second, information by its nature generates benefits which are not consumed immediately. The gestation period for the influence of new information can easily expand to five years or more. For these reasons, we have had to try to deal with the likely extent to which project results would subsequently be used.

The basic source of data for the assessment of project outputs was the project interview. Members of the project team provided their views on the value of output and gave some indication of the ways in which the project outputs were used. In some cases, project outputs were feasibility studies which led to subsequent activity so that here we had direct information about the impact on subsequent decision-making. Since we did not have information on the subsequent use of project information in all cases, however, there remains an inevitable element of subjectivity in our assessment and we would point to this as a limitation of our analysis.

This limitation could be substantially reduced by intensive project-by-project investigations of how project outputs were used. This, however, moves in the direction of a complete evaluation of each of the 17 projects and was beyond the scope of this investigation. In terms of the structure of this report, the limitations that we have discussed have an important impact on the precision of the results and on the extent to which it is possible to compare projects within and among programs. We have tried to present a summary opinion on the relationship of project costs and benefits that assigns projects to one of three categories. Those categories are:

- Favourable.
- Uncertain.
- Unfavourable.

Although the data problems discussed above preclude the actual calculation of benefit cost ratios, we would see our categories as corresponding to benefit cost ratios substantially above one, roughly equal to one and below one respectively.

In less technical terms, favourable projects would be those for which it appears likely that the results will generate significant benefits or cost savings in the future. To qualify in this category, a project must have results that are likely to be useful in subsequent decisions and these results must be disseminated to the relevant decision makers.

The uncertain category indicates that we have been unable to determine potential benefits from the project in excess of costs. In some cases, this is a reflection of the fact that not enough time has yet elapsed to reasonably assess benefits.

The unfavourable category consists of projects for which it appears that current and expected future benefits are small in relation to the costs of the project. This category includes projects for which it appears that the results could have been obtained more cheaply in some projects from which the outputs have not been circulated sufficiently to generate downstream benefits from better decisions.

2. Project results

The project results are summarized in Exhibit V-1. We reviewed a total of 17 projects. Of these, we determined that ten projects fall in the favourable category, four in the uncertain category and three in the unfavourable category. These project results can be broken down by program as follows:

	Project Results		
Program	Favourable	Uncertain	Unfavourable
Physical and Resource Planning	1	1	-
Research and Studies to Investigate Development Opportunities	6	3	3
General Development Planning	3	-	-
Total	10	4	3

We emphasize again that the sample sizes, especially for the first and third programs, are not large enough to support generalization about the relative merits of the different programs. We also note that even among the unfavourable projects, the conclusion was generally reached as a result of the costs of producing the particular outputs. Virtually without exception, the reports provided apparently useful and applicable information. Our judgement with some of the projects was, however, that the essential aspects of this information could have been produced at a lower cost.

EXHIBIT V-1. Summary of Project costs and outputs

	Program and Project	Estimated Costs	Outputs	Assessment
PHYSICAL AND RESOURCE PLANNING				
1.	Resource Mapping	$204,500	Planning maps	Favourable
2.	N.S.P.L. Conversion/Expansion	299,125	Feasibility study	Uncertain
INVESTIGATION OF DEVELOPMENT OPPORTUNITIES				
1.	Wood Burning Energy Study	250,000	Economic and technical study	Unfavourable
2.	Offshore Drilling Rig Construation	100,000	Estimates of demand for rigs produced in N.S.	Favourable
3.	Office Location Study	60,000	Study of determinants of office location	Unfavourable
4.	District Hot Water Heating	125,000	Feasibility study of district heating	Uncertain
5.	Free Trade Zone Concept	52,160	Assessment of zone concept and alternatives	Unfavourable
6.	Manufacturing Cost Comparison	65,375	Determination of limited N.S. cost disadvantage	Favourable
7.	Shipbuilding and Repair	105,990	Identification of market opportunities; input to new agreement	Favourable
8.	Sydney Industrial Park	47,795	Analysis of industrial park location	Favourable
9.	Management Training Needs	32,146	Survey of firms	Favourable
10.	EPA Avionics Facility	93,550	Submission to DSS	Uncertain
11.	Techmarc	18,350	Feasibility Study	Favourable
12.	Opportunity Identification	12,000	Proposals for major subsequent study	Uncertain

EXHIBIT V-1. Summary of project costs and outputs (Cont'd.)

Program and Project	Estimated Costs	Outputs	Assessment
GENERAL DEVELOPMENT PLANNING			
1. Travelway System Evaluation	$ 35,000	Report on travelway routing and improvement	Favourable
2. Updating I-O Tables	126,270	1974 I-O Tables and Analysis	Favourable
3. Construction Trades Inventory	86,000	Feasibility study	Favourable

It should also be borne in mind that research studies and planning studies will inevitably have a high variance in their results. New ventures are more risky and approaches which subsequently turn out to be dead-ends or mistakes are inevitable. Although we cannot truly aggregate the results of these projects, our impression of all the projects taken together is that the benefits of the project outputs exceed the total costs of operating the programs and producing the project outputs.

C. A SECOND GENERATION AGREEMENT

1. Planning in Nova Scotia

The provincial strategy for economic development emphasizes the need for a comprehensive approach to defining medium and long-term prospects. Objectives implicit in the province's development policies have been to attract foreign investment, promote the processing of resources, build up infra-structure and encourage the expansion of existing business firms. The emphasis is on changing Nova Scotia's pattern of slow growth by identifying and developing opportunities.

Our earlier discussion suggested a couple of important points:

- Both DOD and DREE seem to be committed to socio-economic planning.
- Planning is going on under a number of different mandates (i.e., internally, other subsidiary agreements).

Nova Scotia, unlike many other provinces, has chosen to adopt and maintain a Subsidiary Agreement for Planning. Alternative strategies include funding planning efforts through subsidiary agreements with more favourable cost-sharing ratios and/or with specific planning components. Those provinces which can afford to reject federal involvement in provincial development planning frequently do. In choosing to work jointly with DREE, Nova Scotia can overcome its less favourable position in terms of available in-house resources and funding for planning studies. Aside from project-specific outcomes, use of the Planning Sub can and has enhanced the development of planning tools and expertise in small provincial planning groups.

Given that Nova Scotia is inclined to work cooperatively with DREE in planning activities, our evaluation of the existing Planning Sub suggests that benefits of this process might be increased by:

- Clearly identifying the link between a new Agreement and the province's comprehensive development strategy. The sophistication of planning activities within DOD has increased appreciably since the first Agreement was signed. In order to avoid duplication and uncoordinated, ineffective efforts, the Planning Sub should play a well-defined role in relation to ongoing departmental planning.

- Defining in more operational terms the distinction between the mandate of the Planning Sub and planning components of other subsidiary agreements.

These issues might be addressed in a number of ways. A recent project brief prepared for the General Development Planning component -- A Comprehensive Development Strategy for Nova Scotia -- suggested sector and horizontal policy reviews, followed by sector action plans and program designs as part of a comprehensive strategy. This appears to be a reasonable approach for a new Agreement to include: it would provide a more directed effort while remaining at a relatively "strategic" level of planning.

The second Planning Sub's position with respect to other agreements also demands attention. The apparent overlap with the Opportunity Identification component of the Industrial Development Agreement was substantiated in reports by committee members of occasional arbitrary decisions between the two. If a similar component appears in a new Industrial Development Agreement, a distinction must be drawn between the types of opportunities investigated by each. Perhaps a dichotomy between sectors and more localized industries might be an appropriate split. Another differentiation which emerged from our discussions is between "soft" and "hard" planning (or pure versus applied). Development of more specific funding criteria based on identified priorities might alleviate problems identifying the appropriate funding route.

With respect to other subsidiary agreements, we suggest that the Planning Sub's original role as an exploratory vehicle for new agreements should be maintained and emphasized. This would require a shift in responsibility away from the DOD and DREE staff currently carrying out this work. But the potential benefits in terms of integrating GDA activities seem warranted. This would also aid the process of developing funding criterion (i.e., by designating a type of activity to be funded).

A parallel move would be to set out clearly those ongoing subsidiary agreements for which the Planning Sub has planning responsibility -- ideally, those which do not have a planning component. In order to link shorter-term planning with implementation efforts, it might be advisable to include planning components within any new agreements. This holds particularly for resource agreements which often require a substantial commitment of funds with diffuse impact on economic development. Planning Sub resources would then remain available to sectors not covered by specific agreements.

2. Improving the process

Discussions with people involved with the Planning Sub and review of our outcome data have identified a number of possible modifications.

a) Better criteria

Most respondents favoured the flexibility of the Planning Sub over a rigid set of guidelines. But most agreed that a little more focussing would be desirable. Program components should define as extensively as possible the types of activities which have been jointly identified for that component. Project selection might then proceed by linking proposed studies with expected outcomes (i.e., how would the findings be used?) in order to pre-assess its potential impact on program objectives. Development of these criteria should take place within the context of coordinated planning for the province as outlined above.

b) More stringent contracting

A general strategy of competitive tendering should be instituted, incorporating a point evaluation system where possible. This may be more time-consuming. But potential benefits include a wider range of perspectives on studying new concepts and a built-in tool to monitor project progress. Sole source contracts should require significant documentation to justify the decision.

c) Better evaluation planning

Evaluation issues should be considered as the second Agreement is drafted. This study has shown that intensive evaluation of projects to determine overall effectiveness is not practical or feasible in the short-term. Assessment of longer-term effects belong more appropriately in an overall evaluation of the GDA.

An evaluation plan setting out plausible measures of effectiveness for each program component would be useful. Drafting of the new Agreement should be accompanied by an evaluability assessment (i.e., is the Agreement as structured evaluable in meaningful terms). It might also include clear guidelines on project monitoring procedures to avoid gaps in project documentation.

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APPENDIX A

PROJECT DATA SHEET AND INTERVIEW GUIDES

PROJECT DATA SHEET

A. ALL PROJECTS

PROJECT NO. _____

PROJECT NAME _____

IMPLEMENTATION RESPONSIBILITY: _____

TOTAL COST: _____ REVISED: _____

AUTHORIZATION DATE: _____

OBJECTIVES: _____

SELECTION CRITERIA: PROGRAM I
PHYSICAL & RESOURCE PLANNING

	PROJECT FIT		
	Y	N	?
1. General Criteria			
► Work undertaken is either a "study" or "planning.".....			
► The study and planning are "required to identify and analyze economic and socio-economic development opportunities in Nova Scotia.".....			
► The study and planning are required to "develop strategies, programs and subsidiary agreements pursuant to those opportunities.".....			
► Planning is "additional to that which is currently being conducted.".....			
► The province "does not possess in-house capability or expertise.".....			
► Planning is "in pursuit of opportunities identified jointly by Canada and the Province.".....			
► "All Federal or Provincial in-house expertise is/ will be utilized.".....			
2. Specific Criteria			
► Objectives:			
"assembly and analysis of baseline data and information regarding the location of development projects;"...			
"program will complement and utilize information from the resource survey programs in other sub. agreements and ongoing activities of the Maritime Resource Management Centre.".....			
► Possible Activities:			
- Broad sub-regional development patterns.....			
- Assessments of the socio-economic and environmental impact on development at different locations.....			
- Studies dealing with land use.....			
- The assimilation of baseline data and information.....			
- Possibly environmental impact studies.....			

SELECTION CRITERIA: PROGRAM II
RESEARCH & STUDIES TO INVESTIGATE DEVELOPMENT OPPORTUNITIES

	PROJECT FIT		
	Y	N	?
1. General Criteria			
► Work undertaken is either a "study" or "planning."			
► The study and planning are "required to identify and analyze economic and socio-economic development opportunities in Nova Scotia."			
► The study and planning are required to "develop strategies, programs and subsidiary agreements pursuant to those opportunities."			
► Planning is "additional to that which is currently being conducted."			
► The province "does not possess in-house capability or expertise."			
► Planning is "in pursuit of opportunities identified jointly by Canada and the Province."			
► "All Federal or Provincial in-house expertise is/ will be utilized."			
2. Specific Criteria			
► Objectives:			
"to provide the necessary background information and strategy for turning broadly defined development opportunities into job and income-generating activities;"			
"deals primarily with attracting investment by the private sector to Nova Scotia."			
► Possible Activities:			
- Technical feasibility and pre-engineering studies for supportive infrastructure and social infrastructure -- "basic infrastructure, community development and social amenities."			

SELECTION CRITERIA: PROGRAM III
GENERAL DEVELOPMENT PLANNING

	PROJECT FIT		
	Y	N	?
1. General Criteria			
► Work undertaken is either a "study" or "planning."			
► The study and planning are "required to identify and analyze economic and socio-economic development opportunities in Nova Scotia."			
► The study and planning are required to "develop strategies, programs and subsidiary agreements pursuant to those opportunities."			
► Planning is "additional to that which is currently being conducted."			
► The province "does not possess in-house capability or expertise."			
► Planning is "in pursuit of opportunities identified jointly by Canada and the Province."			
► "All Federal or Provincial in-house expertise is/ will be utilized."			
2. Specific Criteria			
► Objective: "to increase the efficiency of the provincial government in undertaking development in Nova Scotia."			
► Possible Activities:			
- Investigation of basic economic research and analysis			
- Investigation of basic social research and analysis			

CONTRACTUAL ARRANGEMENTS:

- ☐ sole source
- ☐ competitive bid

CURRENT STATUS:

- ☐ approved, but not started
- ☐ ongoing
- ☐ complete
- ☐ cancelled/transferred

MONEY SPENT AS OF JANUARY 31/81: _____

B. COMPLETED PROJECTS

PROJECT CONTROL: Report(s) delivered

on time ☐ Yes ☐ No

on budget ☐ Yes ☐ No

Stated objectives generally satisfied:

☐ Yes ☐ No

Money returned to Sub _____

OUTCOMES/
RECOMMENDATIONS TO
MANAGEMENT COMMITTEE: _____

PLANNING SUB EVALUATION STUDY
INTERVIEW WITH PROJECT TEAM MEMBERS

Thorne Stevenson & Kellogg/Abt Associates of Canada have been hired to conduct an evaluation of the DREE-DOD Planning Subsidiary Agreement. As a key part of our study, we are interviewing project team members for a random sample of projects. Your answers to the following questions are crucial to our assessment of the project and the Planning Sub in general:

A. PROJECT COSTS

1. What was the final total shareable cost of the project?

   _____

2. What was your department's or organization's contribution?

   _____

3. What were your department or organization's administrative costs associated with the project, specifically:

   - an estimate of the number of hours spent by you as a project team member

     _____

   - the cost of those hours including an allocation of overheads

     _____

   - any additional charges such as travel, publication costs, project overruns, etc.

     _____

B. PROJECT IMPLEMENTATION

1. Where was the idea for the project initiated?

2. How did it fit, if at all, with your organization's planning process and priorities?

3. How did the project fit with the overall intent of the Planning Sub? Would it have been appropriate to any other sub agreement? (If so, which?).

4. How did the project fit with the specific intent of the program under which it was funded?

5. **Did the objectives of the project change as it was implemented? If so, how?**

6. **Was the project completed on time? Within budget? Please elaborate if not.**

7. **Were there aspects of the project's implementation which you would change for future projects?**

C. PROJECT OUTCOMES

1. Did the study lead to the development of strategies, programs or other subsidiary agreements? If so, please elaborate.

2. Were recommendations (or will they be) implemented in any other way?

3. If implementation formed part of or followed the project, has viable long-term employment resulted? Has private investment been attracted?

4. If you have answered positively to Questions 1,2 or 3, is there any evidence that these results would not have occurred without the support of the Planning Sub?

5. In your opinion, what has the key benefit of this study been?

6. Do you think the costs of the study have been warranted in terms of its outcomes? Why?

7. If the project was not awarded competitively, do you feel that the contractor's performance justified this approach?

8. How has the study fit with your organization's planning process?

9. Based on the outcomes of this project, would you recommend a continuation of the Planning Sub? What changes would you make?

10. If you have been a project team member for more than one project, can you identify, based on your experience, a particular type of project best suited to the Planning Sub?

GUIDE FOR INDIVIDUAL INTERVIEWS

1. Were there any trends in project initiation - i.e., federal or provincial - in general or for any of the three sub-programs?

2. In your opinion, do you think any of the three sub-programs could have been better handled solely by either DOD or DREE or under another sub-agreement?

3. How would you rank the projects you worked on (under Planning Sub) in terms of their relation to departmental priorities? (i.e., were they incremental activities or the kinds of projects which would have been done anyway? Did they make demands on your time which limited your commitment to other projects?)

4. Do you feel that the studies could have been more economically or efficiently done by adopting a different approval process or implementation strategy? What changes would you make?

5. Were any criteria applied in the selection of projects? Do you feel that the criteria for the Planning Sub were more or less flexible than those for other sub agreements? Were they applied more or less stringently at any stage throughout the existing agreement (e.g., as funds ran out?) Would you recommend any changes to the criteria for a second Planning Sub?

6. Do you think that the three program areas,

   - Physical & Resource Planning,
   - Investigation of Development Opportunities, and
   - General Development Planning

   represented an appropriate classification of planning studies? Would you change the focus/emphasis of the sub-programs for a second Planning Sub?

7. Do you feel that having planning studies distinct from focussed subsidiary agreements represents a valid approach? Why or why not?

8. Based on your experience, have recommendations from Planning Sub studies generally resulted in some follow-up activity? (i.e., have the studies done more than merely delay a decision or other political action?)

9. In general terms, what type(s) of indicator(s) would you apply to measure the effectiveness of Planning Sub studies? Are direct measures like employment and private investment appropriate?

10. How would you describe the value of information produced by Planning Sub studies in terms of its impact on later development activities?

11. Any further comments/recommendations (e.g., regarding the cost-sharing ratio and extent of private sector involvement)?

APPENDIX B

SUMMARIES OF SELECTED PROJECTS

107601-B RESOURCE MANAGEMENT MAPPING

A. PROJECT OBJECTIVE

To have prepared very detailed, up-to-date, multicoloured maps at 1:125,000 and 1:250,000 scale, the detail to be sufficient to meet the requirements for resource planning, management and protection.

B. PROJECT COSTS

Final total shareable cost: $170,000.

Departmental contributions:

DOD	$ 85,000.
DREE	$ 85,000.

Departmental administrative costs:

- Estimate of number of hours spent by project team members:

DOD	25 hours	
DREE	20 hours	
Lands and Forests	50 hours	(includes time of project team member only)

- Cost of staff time including overheads:

DOD	$ 2,500.	
DREE	$ 2,000.	
Lands and Forests	$ 30,000.	(includes staff time in addition to project team member)

- Additional charges: None

- Total known costs: $204,500.

C. PROJECT IMPLEMENTATION

The idea for the project initiated with the Department of Lands and Forests. The existing set of maps was produced in 1954 and had become outdated. A number of other departments strongly supported this study because of the maps' usefulness in developing resource based industries (e.g., Energy and Mines and Transportation).

The project fit with the DOD and DREE planning processes insofar as it would provide baseline data on provincial land. The Department of Lands and Forests recognized the need for this study but did not have staff or money available to carry it out in-house.

The major reason for using the Planning Sub as opposed to other agreements such as Forestry or Agriculture was the potential for the widespread use of the maps among a number of departments. They would provide a tool for work under other sub agreements.

The project was completed on time and within budget and did not experience any implementation difficulties.

D. PROJECT OUTCOMES

The study has not led directly to the development of other strategies or agreements but has provided up-to-date base maps for all activities involving the use of reference maps. The Department of Lands and Forests has been the biggest user of the maps for forest protection and fire suppression, as well as to display provincial crown lands. Geological overlays have been useful to the Department of Mines. A considerable amount of prospecting is going on in the province. The maps, which show mineral deposits, have been useful in the planning of mining operations. Another application has been in the area of agriculture. The planning of a grain facility in Kings County benefited from the updated maps by being able to select the site with the best road network.

Quantification of benefits is difficult. For example, the savings in timber if a fire is put out in a couple of hours as opposed to a couple of days is considerable. The extent to which this outcome would be due to faster location of a fire on the newer maps is unclear. One perspective is to compare the cost of the maps to other means of fire suppression; a helicopter to cruise into remote areas costs approximately $1 million.

The maps which show current road and power line locations have also been used for tourism planning.

Overall, the project was perceived to be similar to others funded under Program I of the Planning Sub: it required an umbrella type of agreement because it was not related to planning for a specific type of industry.

107601-E NSPL CONVERSION EXPANSION STUDY

A. PROJECT OBJECTIVES

To carry out a comprehensive feasibility study of the conversion of the present Nova Scotia Pulp Limited bleached sulfite mill to a bleached hardwood craft mill and the addition of a second newsprint machine.

Any conversion and expansion project which would ensue from positive results of this study would provide the benefit of maintaining the existing 2,000 direct jobs at Nova Scotia Forest Industries as well as creating upwards of 600 additional jobs in the area. In addition, the conversion would promote utilization of an abundant sustainable fibre resource (hardwood) virtually untapped today.

B. PROJECT COSTS

Final total shareable cost: $155,380. ($194,225. including 20% from NSFI)

Departmental contributions:

DOD	$ 77,690.
DREE	$ 77,690.

Departmental administrative costs:

- Estimate of number of hours spent by project team members:

DOD	125-150 hours
DREE	125 hours
Lands and Forests	160 hours
NSFI	(120 hours)

- Cost of staff time including overheads:

DOD	$ 12,500. - $ 15,000.
DREE	$ 7,500.
Lands and Forests	$ 2,500.
NSFI	$ 7,000.

- Additional charges:

DOD	$500.
DREE	$400.
Lands and Forests	$350.
NSFI	($4,150.)

- Total known costs: $229,125. - $231,625.

C. PROJECT IMPLEMENTATION

The outbreak and spread of the spruce budworm infestation had threatened the source of supply for the present sulfite mill and placed its future in jeopardy. The province, the company and DREE had jointly examined alternatives to the existing mill. The company carried out a number of studies which suggested that the only reasonable strategy was conversion.

DOD considered it essential to qualify and quantify the options open to ensure the firm's continued life. For both DOD and DREE, saving the 2,000 jobs which were in jeopardy was of the highest priority. The time which would be required for the conversion left only one year of lead time to do the planning before a crisis in supply. The Department of Lands and Forests had determined that there would be a shortfall of pulpwood by the mid-1980s and viewed the project as a means of addressing the problems involved.

The project seemed to comply with the intent of the Planning Sub: some very basic feasibility questions had to be addressed before more detailed planning could begin. Also,the project documented the economic benefits of maintaining and enhancing employment levels at NSFI. As a project under Program I,it provided some basic information for subsequent decisions. The Industrial Development Sub and the Forestry Sub were possible alternatives but did not seem to offer an appropriate slot. Also, securing funding from other sources may have involved a very inefficient process when momentum was key. The company was also becoming concerned about losing professional staff.

The project was completed on time and approximately $45,000 below the not-to-exceed amount of $200,000. One project team member felt that the opinion of a second consultant might have been useful and that the socio-economic benefits could have been given more attention by the consultant.

D. PROJECT OUTCOMES

The study suggested that conversion may not be the best alternative and would involve substantial capital costs. The company sponsored an independent study for $45,000 which involved a technical evaluation and final cost estimates for a second option - construction of a wood burning boiler. The project is presently underway -- funded by the company, the province and the federal FIRE Program. This boiler can be independent of a conversion but is also a necessary first step if the company should decide to go ahead with the conversion.

When the study was done, conversion was the primary option. While the study was underway, the company completed field trials in Sweden which showed that a 50-50 blend of hardwood and softwood could produce a marketable product, a possibility which had previously been dismissed. A power plant retrofit along with increasing the sulfite hardwood blend ratio will delay the crucial decision by five years. At that time, a more reliable estimate of the extent of insect ravages will be available.

The boiler construction project will span a two year period and will employ up to 300 people. Long-term employment of 60-80 people for the boiler will begin in late 1982. At some point in the future, the addition of a second newsprint line will create approximately 600 new jobs. In the long-term, it is hoped that the 2,000 existing jobs will be maintained.

Overall, the study produced a number of benefits:

- It educated the government and to some extent the public on the significance of the current budworm attack.
- It permitted NSFI to develop a long-term approach to its impending softwood shortage problem and considerably improved liaison between the company and senior levels of government. The Swedish parent company had been growing increasingly disenchanted with operating a forest complex in Nova Scotia due to power costs and failure to protect forests.
- It was a means of gaining time and a better understanding of the possible alternatives by everyone concerned.

It is conceivable that the company would have gone ahead with the boiler since its feasibility was based on research unrelated to the study. However, the results of this study did expedite plans for the boiler.

Investment in the boiler will be in the range of $40-$43 million. It was originally estimated to be $23-28 million but has been revised due to inflation. If the project was just getting underway now, the total cost may well have been in the order of $80-$90 million.

Additional benefits from the boiler project will be approximately 120 jobs per year to produce 60,000 cords of hardwood. It will also displace 345,000 barrels of refined oil per year. Again, the extent to which any of these benefits can be linked with the Planning Sub study is unclear. A number of agencies will claim credit for these benefits -- for example, the FIRE program of the federal Department of Energy, Mines and Resources (EMR).

The Planning Sub appeared to be more suited to this project than the Forestry Sub which is a more formalized,on-going type of agreement. Also, none of the program areas under the Forestry Sub seemed appropriate to this type of study. The closest would have been New Uses for Hardwood,but the scope of the project was too large for that component. Overall, the study may yet result in a specific subsidiary agreement for mill conversion and has resulted in stabilized planning.

107602-A

OFFSHORE DRILLING RIG AND PLATFORM DESIGN AND CONSTRUCTION IN NOVA SCOTIA

A. PROJECT OBJECTIVES

- To identify and quantify the market for a Nova Scotia rig building yard.
- To provide government and others with data, conclusions and proposals for further action required to justify, guide and facilitate the investment and other measures for development of the drill rig industry.
- To provide the configuration for a viable drill rig yard.

B. PROJECT COSTS

Final total shareable costs: $ 86,736.74

Departmental contributions:

DOD	$ 43,368.27
DREE	$ 43,368.27

Departmental administrative costs:

- Estimate of number of hours spent by project team members:

DOD	65
DREE	(unknown)

- Cost of staff time including overhead:

DOD	$ 2,600
DREE	(unknown)

- Total known costs: $ 86,736.74 (underestimate).

C. PROJECT IMPLEMENTATION

The idea for this project appears to have been initiated in the private sector. The project was awarded non-competitively and was on time and on budget. It appears to fit the Planning Sub-Agreement reasonably well.

In DOD's view, the project was well done. The study was reviewed by a well-qualified project team and accepted by them.

D. PROJECT OUTCOMES

Previous to the study, there was some thought that the Halifax Shipyards should continue building drill rigs. The study presented along with previous and concurrent studies, the need for dry docks for repair and moved the DOD strategy toward repair at Halifax Shipyards.

When the study was started, there were enthusiastic forecasts about the impact of off-shore work. No data had been generated on the ability to respond to that work and supply equipment. This was the first study to be undertaken in this area.

Previous to the study, the Halifax Shipyards was short of orders. The study confirmed the slackness in the worldwide market. In that regard it reduced the uncertainty facing DOD and potential buyers for the Halifax Shipyards. In DOD's opinion, the Shipyard would have been converted to repair work anyway. However, the study made that quite certain.

107602-E DISTRICT HOT WATER HEATING

A. PROJECT OBJECTIVES

- To confirm (or deny) that the concept of district heating is technically and economically feasible in downtown Halifax.
- To complete pre-engineering costing and preliminary design.

B. PROJECT COSTS

Final total shareable costs: $ 22,500.00

Departmental contributions:

DOD	$ 11,250.00
DREE	$ 11,250.00

(In addition, National Research Council contributed $50,000 to the study and Nova Scotia Power Corporation contributed an additional $32,500).

Departmental administrative costs:

- Estimate of number of hours spent by project team members:

DOD	(unknown)
DREE	80 hours
NSPC	170 hours

- Cost of staff time including overhead:

DOD	(unknown)
DREE	(unknown)
NSPC	(unknown)

- Total known costs: $105,000.00 (underestimate).

C. PROJECT IMPLEMENTATION

At the time the project was being considered, there were three major building developments in downtown Halifax. The Waterfront Development Corporation was rebuilding the entire waterfront area and the hospitals and the university were considering new or up-graded heating facilities. The Water Street Thermal Power Station was being re-examined by Nova Scotia Power Corporation. The Planning Study examined the possibility of using hot water (super-heated water under pressure) or steam -- either source being a bi-product of the generators of the Water Street Plant. The hot water or steam would be piped underground in the number of loops around the city. At each major installation a heat exchanger would be put in place to draw heat from the high-pressure line and make it available at low-pressure within the building.

The project was initiated by Nova Scotia Power. Staff working for the NSPC had prepared papers on the subject and had proposed district heating as one alternative for the Water Street Station. Cogeneration of power and heat tends to yield lower costs for the power and by-product heat than one could get running the station on just one of these outputs.

It was clear in 1975 that energy represented a significant and increasing cost in Nova Scotia. District heating had the promise of conserving energy, reducing reliance on off-shore oil and improving the efficiency of the power plant. A 1976 study of major companies indicated that some were quite vulnerable -- Canso Chemical spending about 40% of its operating budget on power charges. There was no Energy Sub-Agreement at that time so from the DREE point of view, doing the project under the Planning Sub made sense. As well, the possibility for spin-off from the study was substantial. The technology of heat exchangers with steam or water super-heated to 350 °F supplying heat to buildings would be new in Canada. There were opportunities to develop new technology in metering as well. So from the DREE point of view, the project looked quite good.

The objectives of the project did not change. The terms of reference were good, although they were drafted by people not specialized in district heating. The project was over budget.

D. PROJECT OUTCOMES

The study had a generally positive result. The concept was viable. However, the initial capital investment was estimated to be $8 million and Nova Scotia Hydro had to put up the risk money. The viability of the project depended on how many clients they could recruit to use the

district heating system. The Energy Sub-Agreement took two years to put into place -- it was not available at the time of this study. Hydro was not prepared to undertake the risk and, therefore, district heating did not go forward.

The study did not lead to any strategies, programs or subsidiary agreements. District heating was not undertaken as a project. Therefore, the recommendations will not be implemented in any other way. The opportunity has passed. The developments that were underway in 1976 are now completed -- each with its independent heating apparatus. The hospitals and the university have invested in upgraded facilities. Therefore, a district heating project would make much of that recent investment redundant.

The key benefit of the study was good actionable information on district heating.

107602-H OFFICE LOCATION STUDY

A. PROJECT OBJECTIVES

- To identify the specific types of firms and, where it arises in the course of the analysis, specific firms which are most likely to be influenced to expand or locate office facilities in Nova Scotia and the factors most likely to influence them to do so.
- To determine a strategy by which the Province of Nova Scotia can develop these factors where they do not exist and to encourage these office expansions or locations to Nova Scotia.
- To recommend a specific program whereby the strategy can be realized and increased office employment can result.

B. PROJECT COSTS

Final total shareable cost: $ 50,000.00

Departmental contributions:

DOD	$ 25,000.00
DREE	$ 25,000.00

Departmental administrative costs:

- Estimate of number of hours spent by project team members:

DOD	(unknown)
DREE	115.5 hours (underestimate)

- Cost of staff time:

DOD	(unknown)
DREE	$ 1,735.00 (plus overhead)

- Total known costs: $ 51,735.00 (underestimate).

C. PROJECT IMPLEMENTATION

The original idea for the project was initiated by the Department of Development.

The project was completed on time and on budget.

D. PROJECT OUTCOMES

Since the project was done, a significant number of regional offices have been established in Halifax. This seems to be a continuation of a trend which was recognized in 1977 when the terms of reference were drafted. The study was neutral, neither positive nor negative, in terms of these location decisions. No action has been undertaken as a result of this study and it is the opinion of the DREE representative that only a limited number of people have knowledge of this study or its contents.

The study may reduce the risks involved in promoting a new program to attract head offices or regional offices to Nova Scotia. Information learned in the initial study could be used to suggest what firms should be attracted. The study was contributed to drafting a proposed $50 million Industrial Innovation Subsidiary Agreement with a $2 million Office Location Program.

The project was reported in the Canadian Journal of Regional Science which is published by the Regional and Urban Studies Centre, Institute of Public Affairs, Dalhousie University. Issue No. 1, Volume III, 1980 contains an article by Dipchand and Storey "The Location of Offices." The study summarizes the background, process and main findings of the report.

107602 - I

FREE TRADE ZONE CONCEPT

A. PROJECT OBJECTIVES

- To study the concept of setting up a free trade zone or zones within Nova Scotia and to make recommendations based on its findings.
- To examine any changes required, legal or otherwise, to add weight to the advantages of such a zone.
- To select the most suitable area in the province for location of a free trade zone.

Ultimately, the results of the study would assist the provincial government:

- In the formation of policies to enhance the use of the province's seaport and/or airport facilities.
- To increase foreign trade.
- To provide additional jobs in the trade, services, construction and possibly manufacturing sectors.

B. PROJECT COSTS

Final total shareable cost:

Phase I	$30,208.82
Phase II	9,792.00
Total	$40,000.82

Departmental contributions:

DOD	$20,000.41
DREE	20,000.41

Departmental administrative costs:

- Estimate of number of hours spent by project team members

DOD	190
DREE	190

- Cost of staff time including overhead

DOD	$3,040 plus overhead
DREE	unknown

- Additional charges

DOD	$300 for extra copies of report.

Total know costs - $43,340.82 (underestimate).

C. PROJECT IMPLEMENTATION

The Free Trade Zone concept had been a recurring topic of interest in the province and was being advocated by various people at the time. A paper had been prepared within DOD in 1977, but a more in-depth examination was needed. With particular support from DOD, the project was initiated to provide an authoritative study on the issue. Both departments viewed the question as a fairly high priority due to the public interest aroused by media coverage.

Since the study would investigate a planning concept related to development opportunities and was not directly related to any line agreement, the Planning Sub Agreement was used. It also seemed to be a clear fit with Program II -- Research and Studies to Investigate Development Opportunities.

The project objectives changed as it was implemented due to the negative outcomes of Phase I. Since it was noted that Canada is essentially a Free Trade Zone due to warehousing and export drawback arrangements, there was no need to examine implementation of the concept in more detail. Instead, Phase II examined the feasibility of a publicly bonded warehouse in an industrial park.

The project was completed substantially within the allowed time and on budget. The project team expressed satisfaction with the consultants' performance.

D. PROJECT OUTCOMES

The study served to dispel the notion that a formal Free Trade Zone established in Nova Scotia would enhance its economic development. Following the study, DOD proposed a strategy for a public bonded warehouse. The idea was not implemented because it was felt that it should be left to the private sector since the public subsidy would be too high.

Since a program or strategy has not directly resulted from the study, no employment or private investment outcomes are evident. The economic costs of implementing and policing a Free Trade Zone were avoided, as well as the potentially thorny political process it would have necessitated. However, none of these costs would have been incurred without such a study, whether or not it was done under the Planning Sub. Using the Planning Sub apparently allowed the study to be done in more detail than it otherwise might have been. Whether a less detailed study would have yielded different conclusions cannot be determined.

The study has received wide circulation and requests are still being made for copies by the private sector, universities, Boards of Trade, ITC, other provinces and other groups with development interests.

The information has also been used in promotional discussions with other countries and by Industrial Estates Limited (a Crown Corporation to promote industrial relocation). But any incremental benefits as a result of the information are unknown.

Despite the lack of development outcomes, the project was considered to be a particularly suitable application of the Planning Sub because it involved a more thorough investigation of a general concept before development funds could be allocated.

107602-K WOOD-BURNING ENERGY STUDY

A. PROJECT OBJECTIVES

- To examine the socio-economic, environmental and technical considerations relating to the use of wood as an energy source for the Strait of Canso industrial complex, in combination with improved forest management in Eastern Nova Scotia.

- To provide government and other interested parties, particularly industry and investors, with the necessary information and recommendations that would permit them to make decisions regarding:

  - The construction of wood-burning facilities at Point Tupper for the production of electricity and/or steam.

  - Improved forest management in the fuel source areas, particularly with regard to the removal of low-grade and waste materials and higher forest yield.

B. PROJECT COSTS

Final total shareable cost: $188,283.00

Departmental contributions:

DOD	$ 94,141.50
DREE	$ 94,141.50

Departmental administrative costs:

- Estimate of number of hours spent by project team members:

DOD	(unknown)
DREE	(unknown)

- Total known costs: $188,283.00 (underestimate)

C. PROJECT IMPLEMENTATION

The idea seems to have originated with the Department of Development. The original project brief was drafted there. Nova Scotia Forestry Industries (NSFI) have an obvious and continuing interest in the subject -- improving their supply of fibre for pulp and reducing their energy costs.

The study pre-dates the Energy Sub-Agreement. Nevertheless, project members view the Energy Sub as being responsible for looking at a broadly defined policy question. A site-specific initiative such as this one was felt to be more appropriate to the Planning Sub.

The opportunity was not of the highest priority for DREE. In their view the project was only a modest fit with the specific intent of the program under which it was funded. It was an opportunity for cost-reduction and wood harvest could produce a certain number of jobs as a spin-off from the primary activity -- power and steam production. It was felt that other mechanisms might be more appropriate for its funding today. The N.S. Power Corporation might do the study of its own initiative or in conjunction with NSFI. Alternatively, EMR with its cogeneration and renewable energy initiatives, might undertake this study.

The study was not completed on time, encountering extensive delays (about six months) in producing the final report. There was a slight overrun, but the project still fell within the original reserve that had been made on the Planning Sub.

Project implementation would probably not go forward in the same way today. The suggestion was made that the project was too large for the stated needs: it almost amounted to an engineering feasibility study on a project that is not economically viable without very substantial public subsidies. If the study were being funded today, it would probably involve much less technical detail on the power generation facilities.

D. PROJECT OUTCOMES

While the study outcomes were negative, NSFI apparently has some interest in follow-up.

It has been suggested that the recommendations should be reviewed as the price of oil changes. There is also some possibility that the study may be pursued by EMR.

Private investment has not been attracted -- this may means that an inappropriate investment was probably avoided.

107602-L

NOVA SCOTIA TECHNICAL COLLEGE
MARINE APPLICATIONS RESEARCH CENTRE
(TECHMARC)

A. PROJECT OBJECTIVES

To carry out a preliminary feasibility analysis which would draw upon expertise from across Canada and throughout the world to:

- Examine the economic viability of TECHMARC by estimating revenue and expenses associated with its operation.
- Produce a preliminary design of the facility.
- Delineate the specific activities which the facility should encompass.

B. PROJECT COSTS

Final total shareable cost: $17,850.

Departmental contributions:

DOD	$ 8,925.
DREE	$ 8,925.

Departmental administrative costs:

- Estimate of number of hours spent by project team members:

DOD	14-21 hours
DREE	(unknown)

- Cost of staff time including overheads:

DOD	$ 500. (estimate)
DREE	(unknown)

- Additional charges: None
- Total known costs: $18,350. (underestimate)

C. PROJECT IMPLEMENTATION

The principal of the Nova Scotia Technical College had been actively promoting the idea of a $30 million centre. The proposal sounded attractive but had not been specified in any detail. DOD approached DREE with the idea of providing funding for a further examination of the concept. The study would look at potential revenue and operating costs, as well as develop a preliminary design, in order to determine the centre's feasibility. Staff from the college were hired because of their familiarity with the concept and their contacts with facilities throughout the world. A firm from Holland did the design work.

The project was perceived to fit well with the industrial development mandates of both DOD and DREE. Program II of the Planning Sub was chosen because it enabled this type of feasibility work to be done. The project was implemented smoothly and was completed on time and within budget.

D. PROJECT OUTCOMES

The study indicated that markets did not exist or were already well serviced for some of the potential products. It also emphasized that a considerable marketing effort would have to be undertaken before the facility was built. Such a facility would need to identify private sector buyers and gain an idea of when they would buy. The preliminary design work incorporated the results from the market research and scaled down the proposed size of the facility considerably.

To date, the study has not resulted in a new subsidiary agreement which would fund the building of the facility. Although the province has committed its support for part of the capital costs, the individual who has been promoting the concept from the beginning has not been successful in finding other supporters.

Although the study contributed to a refining of the proposal, it is extremely doubtful that the initial proposal would have been funded anyway. To date then, the key benefit has been an improvement in the calibre of the proposal: potential markets and the need for high quality staff and good marketing expertise were identified. The outcomes of the study highlighted the differences in perspective of those involved. The proposal's originator viewed the facility as one which would depend on the public purse and emphasized its educational values. DOD, on the other hand, would require the facility to become commercially viable. In a sense then, the study served to educate the college staff involved in the potential market position of such a facility and the expectations of government.

The study has been used as a reference document by DOD and will be used in presentations by the college and DREE. Since there was never a firm commitment to Nova Scotia Technical College that it would be the site of any new facility, the study's findings could be of potential benefit to other groups in the Atlantic provinces interested in such an initiative.

Overall, it was felt that this study was a successful application of the Planning Sub, highlighting its usefulness as a tool to test the feasibility of concepts before detailed plans are laid out.

107602 - P SHIP BUILDING AND REPAIR: MARKET ANALYSIS

A. PROJECT OBJECTIVES

- To pinpoint specific shipbuilding and ship repair market opportunities which the Nova Scotia industry could potentially capitalize upon over the next decade.
- To provide a market analysis framework upon which to develop individual corporate business plans and evolve an industry strategy.
- The study was to be strictly a market demand study. Consultants were required to examine all relevant aspects, e.g., licensing practices, fish stock, recoveries, etc. The document was to be crisp and succinct, yielding no more than three scenarios, and capable of being used by the yards in the development of their plans.

B. PROJECT COSTS

Final total shareable cost:

$95,990

Departmental contributions:

DOD	$47,950
DREE	47,950

Departmental administrative costs:

- Estimate of number of hours spent by project team members

DOD	300
DREE	200

- Cost of staff time including overhead

DOD	$6,000 (rough estimate)
DREE	unknown

- Additional charges

None

Total known costs - $101,990 (underestimate)

C. PROJECT IMPLEMENTATION

The project was initiated by DREE to update market information for the development of a subsidiary agreement for Small Shipyard Development. A previous, more extensive marketing study completed under the Planning Sub in 1976 had addressed both ends of the ship repair market. DREE preferred to obtain updated information with a narrower focus.

Rationalization and restructuring of the small shipyards industry was a very high priority for DOD. After World War II, government sold the shipyards that had been created as part of the war effort to private industry for $1.00. Subsequently, government has taken the view that since there was no cost, there should be no charge for depreciation of those assets when shipyards are bidding for government contracts. The Department of Supply and Services has maintained a policy of buying at the lowest prices; therefore, the private companies have been unable to renew their assets through reasonable allowances for depreciation.

Individual builders were approaching the department for support -- an approach which prevented a coordinated strategy to meet market demands. Although provincial officials were somewhat frustrated by the delay introduced by the study, its in-depth analysis of the situation was welcomed.

Since the study aimed at developing a plan to revitalize the small ship repair industry and was meant as an introduction to a new subsidiary agreement, the Planning Sub seemed to be an appropriate funding mechanism. Program II, under which it was funded, specifically mentions investigation of ship building activities as a possible application. No other subsidiary agreements at the time would have been suitable.

The objectives of the project remained constant and the study was completed on time and within budget. In a minor way, the implementation of the project may have suffered from the size of the project team. With representatives from the federal and provincial departments of fisheries, the process became somewhat unruly at times. Also, team members may have applied too much "hands-on" supervision of the consultant, perhaps because he was new to the field. He in turn responded by depending too heavily on the project team.

D. PROJECT OUTCOMES

A Subsidiary Agreement is soon to be approved for small shipyards. During the period following the study, small shipyards have continued to approach DOD for assistance. The information produced by the study

has contributed to the allocation of these funds. But without federal assistance, the yards will remain inadequate to meet market demands.

The study has led to the strategy of assisting yards with business planning. But DOD has had to change the plan for delivery of this help. The province had hoped to hire consultants to do individual business plans, then develop a master industry plan followed by capital assistance. Instead, DOD staff are offering the service through the Small Business Consulting Assistance Program. The consulting service and small capital grants have come from the DOD budget.

Although no major initiative has been launched, the yards which have undertaken the business planning exercise have become more knowledgeable about market demand. But the value of this information is diminished by the lack of major capital assistance. The small grants help with minor improvements; however, 75% of the capacity is needed on the south shore, which has only about 20% of existing capacity.

Other federal funding sources were limited. Industry, Trade and Commerce has allocated 80% of $43 million to build a dry dock for large ships, but feels that the province should assume responsibility for small ships. Yet the potential impact on employment and income in Nova Scotia is greater from the small ship industry. The federal department of Fisheries and Oceans is more interested in specialized building facilities for common users (i.e., fishermen).

To date, no long-term employment or private investment can be linked to the study. But the potential may have increased since the study was done. When it was undertaken, it was clear that with the 200 mile limit, more fishing would be done by Canadian boats. This would improve the demand for boats and also the demand for maintenance. Since then, the offshore developments have raised a separate set of demands for service boats to be constructed and maintained. This offshore demand was speculative when the study was done two years ago.

The key benefit of the study has been the assembly of important background information for an imminent agreement. The costs of the study will be justified when the subsidiary agreement implements a strategy to meet the identified demand. Shipyard use of the information has been minimal; an updating will probably be required for future use.

107602-O INTER-REGIONAL MANUFACTURING COST COMPARISON

A. PROJECT OBJECTIVES

- To determine how cost-competitive Nova Scotia is relative to other locations.
- To identify the cost factors that are real impediments to successful operation of a business in Nova Scotia.

B. PROJECT COSTS

Final total shareable cost: $ 58,700.00

Departmental contributions:

DOD	$ 33,700.00
DREE	$ 25,000.00

Departmental administrative costs:

- Estimate of number of hours spent by project team members:

DOD	125 hours
DREE	80 hours
IEL	160 hours

- Costs of staff time including overhead:

DOD	(unknown)
DREE	(unknown)

- Total known costs: $ 58,700.00 (underestimate).

C. PROJECT IMPLEMENTATION

The idea for the project was initiated in a discussion between representatives of Industrial Estates Limited (IEL) and DREE. IEL was concerned that incentives offered for companies wishing to locate in Nova Scotia might not be adequate.

The study fit well with the planning process and priorities of all three participants. IEL has used this study as a promotional tool -- it addresses perhaps the key question of concern to IEL in attempting to recruit additional companies to Nova Scotia. The study is compatible with DREE objectives; the Department of Development used the study in its industrial strategy for Nova Scotia. It has been mentioned in a Throne Speech and in a Green Paper published by the Department. As well, it has had a major impact on a manufacturing sector study and has been mentioned in ministerial speeches.

For these reasons, the study was also a good fit with the Planning Sub-Agreement.

The objectives of the study did not change. The study was organized around a null hypothesis: "manufacturing cost does not represent a penalty to Nova Scotia manufacturers." The hypothesis was argued extensively at the planning stage (Phase I of this study) and was not changed afterwards.

The study was completed on time and on budget.

The data gathering was seen as quite extensive. A subsequent study has been funded to look at specific opportunities -- the Marine Manufacturing Study being carried out by Peat Marwick and BGI. This study is attempting more aggregation of the data, a process which does not seem to be working as well.

The study might have tried to test a stronger hypothesis. This insight seems available only after the fact because the hypothesis stated was thought to be quite strong at the beginning of the study.

D. PROJECT OUTCOMES

This study has been extremely useful to the Department of Development. It changed the point of view of the Department and presents a major challenge to those who would argue for larger and continuing subsidies to attract companies. IEL has become more positive in its promotion of a Nova Scotia location. When companies look for grants, DOD and DREE now negotiate from a more considered position.

The study has had input to private sector investment but has not been directly responsible for such investment.

No other source could have offered the data provided by this study. IEL could not have funded the study itself. The possibility of funding it under the Industrial Development Sub-Agreement existed. But because it would have been peripheral to that agreement, the study would not have been done at the same scale or level of accuracy. That might well have negated much of the positive impact of the study.

A key benefit of the study was "myth attacking", as it has improved the image of manufacturing and development opportunities in Nova Scotia. The study was viewed as being most useful in discussions with companies located in Ontario where the "myth" of expensive manufacturing in Nova Scotia seems most strong.

107602-R REGIONAL DEVELOPMENT OPPORTUNITY IDENTIFICATION (PHASE I)

A. PROJECT OBJECTIVES

- To undertake a preliminary review of possible approaches to determining industrial opportunities or complexes and to select a preferred approach.
- To develop a tentative list of possible opportunities and design a project to confirm the viability of these opportunities, as well as to identify further possible opportunities.

B. PROJECT COSTS

Final total shareable cost: $ 5,000.

Departmental contributions:

DOD	$ 2,500.
DREE	$ 2,500.

Departmental administrative costs:

- Estimate of number of hours spent by project team members:

DOD	30 hours
DREE	175 hours

- Cost of staff time including overheads:

DOD	$ 750.
DREE	(unknown)

- Additional charges: $ 1,000. (approximately)
- Total known costs: $ 6,750. (underestimate)

C. PROJECT IMPLEMENTATION

The project was initiated at DREE. It was felt that the Planning Sub was not generating ideas for future Sub Agreements in a broad and

imaginative way. The study provided an opportunity to marry the universities and the real world in order to develop a systems approach to solving regional development problems. This type of planning approach was a high priority for DREE; it also fit into DOD priorities, although there was no representation from the Strategic Planning and Policy group.

The project, because of its experimental nature - i.e., testing an approach to development - was best suited to the Planning Sub. The Industrial Development Sub, although it has an Opportunity Identification component, was not as appropriate. The project also seemed to be a clear fit with the intent of Program II.

The project was originally intended to be completed by July 1979 but was extended to September by DOD to allow for holidays and an underestimate of the time required. One of the organizations approached provided only a minimal response and was not paid. Consequently, the budget was underspent by $3,500. One of the other two groups approached for a proposal did not seem to have a clear idea of what was required. The pre-screening of interested groups or individuals might have identified those who were most qualified to respond, thereby increasing the justification for paying for a proposal.

D. PROJECT OUTCOMES

The consultant's proposals were used to determine the approach, sector and contractors for Phase II of the study -- the Economic Activity Complex Study funded at $110,000. Approval for $90,000 more for actual development activities is subject to evaluation of the approach. Data from Phase II of the study are being used to produce a medical health vector for the Input/Output Tables. However, since implementation has not followed the project to date, no employment or investment impacts can be linked to the study.

The study provided insights on how to approach opportunity development on a sectoral basis and identified some private sector interests in the medical health area. The project team felt that by paying for proposals, more in-depth, detailed strategies were laid out. If a Sub-Agreement evolves from Phase II, it would not require much economic impact to justify the costs of the Phase I study. Its theoretical base and high risk nature virtually precluded funding outside of the Planning Sub Agreement.

107602-Y

CITY OF SYDNEY
METRO INDUSTRIAL PARK

A. PROJECT OBJECTIVE

To assess the need for a new light industrial park or the expansion or upgrading of existing industrial land in the Sydney area.

B. PROJECT COSTS

Final total shareable cost: $35,500.

Departmental contribution:

DOD	$17,750.
DREE	$17,750.

Departmental administrative costs:

- Estimate of number of hours spent by project team members:

DOD	40 hours
DREE	165 hours

- Cost of project team hours including overheads:

DOD	$1,000.
DREE	(unknown)

- Additional charges: None

- Total know costs: $36,500 ($42,844 including consultants' overrun)

C. PROJECT IMPLEMENTATION

The Cape Breton segment of the manufacturing sector of the Nova Scotia Voluntary Planning Group indicated that they were interested in some positive action towards the establishment of a light industrial park in the Metro Sydney area. DOD felt that the planning should be done from a long range perspective and independently from the City of Sydney and from crown corporations such as DEVCO. The study was intended to

look at the whole Metro area, not just the DEVCO park which a number of business people had expressed dissatisfaction with. DOD had been heavily involved with industrial parks due to their potential impact on the economic development of the province. DREE was interested in the long-term effects of parks in the area and felt that this study would contribute to their planning activities in relation to Sydney Steel.

The Planning Sub was chosen since the project would investigate an economic development opportunity and possibly lead to an industrial strategy. The match with Program II was felt to be evident, particularly because of the potential to attract investment by the private sector to Nova Scotia.

The only change in the project as it was implemented was the addition of a seventh potential site for investigation. This extension of the terms of reference, along with a delay for a holiday taken by a senior consultant, resulted in the final report being delivered three months later than originally anticipated. DOD increased the budget by $3,500; the consultant's request for an additional overrun of $6,344.57 for expenses was rejected by DOD. The project team felt that more time should have been allowed for the study.

D. PROJECT OUTCOMES

The study is still being assessed by a Study Committee in the City of Sydney and by a Voluntary Planning committee. The report indicated a need for another park, but some of the prime sites suggested were outside the boundaries of Sydney. The Study Committee is developing a counter-proposal which would locate the site within the city boundaries. There appears to be some disparity in the sense of immediacy of those involved. DOD and DREE view the study as a tool for planning purposes rather than a means of selecting a site right away; those with more local interests might disagree.

Funding under the Planning Sub allowed for a relatively unbiased assessment of the situation. It also enhanced DOD's planning process in relation to industrial parks. Although no action has been taken to date, an indirect effect might be some sense of stabilization for planning purposes among Sydney businesses. The potential audience for the report includes the Voluntary Planning Board, Industrial Estates Limited, DEVCO, City of Sydney, The Cape Breton JOINTEX Board, and the Cape Breton Metro Planning Commission.

107602-FF MANAGEMENT TRAINING NEEDS AND POTENTIAL STRATEGY SURVEY

A. PROJECT OBJECTIVES

1. To assess the needed skill areas of Nova Scotia management and to develop an appropriate management training and development strategy to address those needs.

2. The project would consist of three distinct elements:

- A technical function to be carried out by a qualified opinion research consultant.
- A management function performed by a management consultant possessing knowledge of the necessary skill areas for input into the questionnaire design.
- An interviewing function to be conducted by Job Corps students under the supervision of the project team.

B. PROJECT COSTS

Final total shareable cost: $14,046.

Departmental contributions:

DOD	$ 7,023.
DREE	$ 7,023.

Departmental administrative costs:

- Estimate of number of hours spent by project team members:

DOD	35 hours (approximately)
DREE	36 hours (approximately)

- Cost of staff time including overheads:

DOD	$ 2,000. (approximately)
DREE	(unknown)

- Additional charges: None
- Total known costs: $16,046. (underestimate)

C. PROJECT IMPLEMENTATION

The Province was concerned about productivity and management quality in small to medium sized firms. It was also concerned about the delivery of management training programs by respective agencies in the Province. A committee under the Policy Board initiated the study as a means of assessing need for management training in the Province.

Since the project involved a survey to determine the existing demand level and potential for management training in the Province, it appeared to be appropriate to the Planning Sub. The Canada Atlantic Provinces Management Training Agreement did not have a research or planning component; issues raised in the project survey were assumed in that Agreement. The rationale for positioning the project under Program II rather than Program III is unclear. Indeed, neither seems to be an ideal match with the project's nature.

The project was completed on time and was on budget, but there were some difficulties coordinating the work of the various groups involved. The project team might have organized the work plan more systematically and defined roles more clearly. There is also some concern over the validity and reliability of the survey instrument in a few instances. For example, some questions may have been interpreted to mean training in general as opposed to management training. However, these inconsistencies apparently did not effect the overall impact of the survey.

D. PROJECT OUTCOMES

Policy Board has used the survey results extensively in drafting recommendations to government. These recommendations include a radical restructuring of the delivery of management training dollars in the province, as well as a reorganization of the Atlantic Management Institute's administration. Promotion of management training would be enhanced, with officers throughout the province liaising with business groups. It has also been suggested that management training be a criterion in reviewing applications under DREE programs. It is hoped that implementation of these recommendations will have a wide ranging impact on management training in the province and therefore on productivity.

The survey data were delivered in the form of 151 aggregate tables and 2,500 cross tabulations. The project team received two copies of a two volume report totalling 1,005 pages of tables. The consultants were not required to produce a written report analyzing the data and its policy implications.

The province has subsequently funded a follow-up study to produce a written report. The first draft of this report is presently undergoing revision. It will be widely distributed to management training organizations and will assist in formulating management training strategies. The data are available to the general public, offering an easy-to-access research tool.

The study's results will also provide input to the negotiation of a new Regional Manpower Training Agreement or to a management training component in the second generation Industrial Development Subsidiary Agreement.

Employment and investment impacts can only be projected if it is assumed that the study will enhance management training and increase productivity. The major benefit of the study has been its use as a planning tool for policy-makers in reviewing the effectiveness of existing agencies and providing input to the new agreement. Although one of the three contractor's performance was unsatisfactory, the study was felt to produce timely and extensive baseline data at a reasonable cost. Another study under the Planning Sub is investigating the supply side of management training. The province may not have supported both of these highly complementary studies without the Planning Sub.

- An interviewing function to be conducted by Job Corps students under the supervision of the project team.

D. PROJECT COSTS

Final total shareable cost: $14,046.

Departmental contributions:

DOD	$ 7,023.
DREE	$ 7,023.

Departmental administrative costs:

- Estimate of number of hours spent by project team members:

DOD	35 hours (approximately)
DREE	36 hours (approximately)

- Cost of staff time including overheads.

DOD	$ 2,000. (approximately)
DREE	(unknown)

- Additional charges: None

- Total known costs: $16,046. (underestimate)

107602-JJ

EPA ADVANCED TECHNOLOGY AVIONICS FACILITY

A. PROJECT OBJECTIVES

To carry out a comprehensive feasibility study for the establishment of an advanced technology avionics facility in Halifax in support of the Canadian Forces CP-140 Aurora Aircraft.

B. PROJECT COSTS

Final total shareable cost: $70,000. ($87,500. including contribution by Eastern Provincial Airways)

Departmental contributions:

DOD	$35,000.
DREE	$35,000.

Departmental administrative costs:

- Estimate of number of hours spent by project team members:

DOD	15 hours (approximately)
DREE	120 hours (approximately)

- Cost of staff time including overheads:

DOD	(unknown)
DREE	$2,500. (approximately)

- Additional charges:

Travel	$2,000. (approximately)

- Total known costs $92,000. (underestimate, includes EPA contribution)

C. PROJECT IMPLEMENTATION

Third level servicing of the new long-range patrol aircraft is not available in the Maritimes. The Department of National Defence and the Department of Supply and Services put out a Solicitation of Interest to

identify firms capable of taking on a high technology venture of this size. The cost of the proposed facility is in the range of $100 million, with a service contract between $10 and $20 million per year. EPA required assistance in determining whether a response to the Solicitation of Interest was feasible.

DREE had been exploring the medium and high technology areas and was anticipating a subsidiary agreement. The project fit in a similar way with DOD's planning priorities. Although the Industrial Development Sub Agreement may have been an alternate route of funding, the project seemed to be a natural application under Program II of the Planning Sub since it could have led to another agreement.

The project was completed on time and on budget with no implementation difficulties.

D. PROJECT OUTCOMES

The study has not had any direct impact to date. However, along with other activities, it has contributed to the decision to locate the facility in Nova Scotia. Although EPA was not successful in its response to the Solicitation of Interest, the decision to locate in Nova Scotia may result in up to 300 high-paying jobs, a $100 million facility and an environmentally clean industry. However, it may be two years before these benefits are realized.

A link apparently exists between the EPA study and the push to locate the facility in Nova Scotia, but the extent of its influence is impossible to identify. The study also provided an educational function by identifying what type of presentation to the Department of Supply and Services produces a favourable response. However, the value of this experience to EPA and other companies cannot be quantified.

EPA would not have carried out the feasibility study or subsequently responded to the Solicitation of Interest without the support of the Planning Sub. As a result of this study, EPA has become more aggressive in areas that were previously considered to involve higher technology than the firm could handle. EPA's expansion of its training facility may also have been based to some extent on the information provided by the study.

Both DREE and DOD recognize the need for a high technology presence in the province's economic development strategy. Once an attractive project has been identified in this area it will trigger a Subsidiary Agreement for High Technology. The indirect outcomes of this study may have expedited

the process of arriving at that agreement. Such a strategy might in turn impact on education in the province and result in spinoff industries such as software development.

The Planning Sub was considered to be a natural vehicle for the type of need addressed in the EPA study - looking at the feasibility of a firm to engage in a fairly broad activity on a large scale.

107603-A UPDATING INPUT-OUTPUT TABLES

A. PROJECT OBJECTIVES

To update to the most recent year for which statistics were available, the 1965 Input-Output Tables for Nova Scotia. The new Tables were to incorporate the most recent theoretical development. The ultimate objective of the project was to put development planning and analysis on a sounder footing.

The project was to consist of two phases:

1. To update to 1974 the Input-Output Tables.

2. To test and use the updated Tables as a development tool.

B. PROJECT COSTS

Final total shareable cost: $107,770.40

Departmental contributions:

DOD	$ 53,885.20
DREE	$ 53,885.20

Departmental administrative costs:

- Estimate of number of hours spent by project team members:

DOD	600 hours (approximately)
DREE	300 hours (approximately)

- Cost of staff time including overheads:

DOD	$ 12,000. (approximately - staff time only)
DREE	(unknown) Minimum of $6,000.

- Additional charges: $400-$500 for extra copies

- Total known costs: $126,220. (approximately)

C. PROJECT IMPLEMENTATION

DOD had 1965 Input-Output Tables for the Four Atlantic Provinces which were used frequently as an aid to planning and evaluating the economic impact of various government policies and incentive schemes, particulatly the impact of plant locations. These had become out dated. The province encouraged Statistics Canada to update the Tables but couldn't get sufficient cooperation from everyone concerned. Also, Statistics Canada was planning to develop its own Tables for 1966. Program III of the Planning Sub seemed to be a good alternative. But the province had to abandon the idea of having all four provinces involved in the update at the same time since the other provinces did not promote the project through their own Planning Subsidiary Agreements.

The project was a high priority for both DOD and DREE. Both departments valued the Tables' potential impact on their planning processes:

- Input-Output analysis gives a disaggregated picture of the structure of the entire provincial economy and consequently can be used to analyze a particular sector or industry.
- The use of this analytical tool provides a sounder basis for providing national economic planning than any known alternative.
- By funding this project DREE,as well as DOD,would have access to the Tables planning purposes.
- By jointly undertaking this project, DREE could help ensure that the quality of the project was kept at a high level.
- In terms of progressing towards more quantitative as opposed to qualitative analysis development, input-output analysis is seen as a major tool.

The Planning Sub seemed to be the most realistic place for the project since it would be developing a general planning tool. Indeed, the input-output project is highlighted in the Planning Subsidiary Agreement itself and Program III was named with this project in mind.

As the project was implemented,the scope of Phase II was widened considerably to include more than just a benefit cost model (e.g., comparison with the 1965 data). Also, a third phase was added to input additional data and to instruct an internal group on how the Tables were assembled so that they could be updated.

Although the project was completed within budget, both phases were delayed considerably with Phase II extended from the end of December 1977 to the end of Summer 1978. Review and correction of draft reports consumed a considerable amount of time. Obtaining data from Statistics Canada was somewhat of a problem. However, given that the 1965 Tables were four years late, the delay was not considered to be significant. The Tables were completely useable by the end of 1977; only the final reports were not received. With the exception of some communication problems regarding the specificity of data to be reported and the tabular presentation of data in Phase I, the work was considered to be very well done.

D. PROJECT OUTCOMES

The project has not led directly to another subsidiary agreement. But it has been used as a basic tool for fine tuning the strategy for any sub agreement (e.g., the impact multiplier is used to determine how much to spend on other subs). The Tables have also been used extensively to determine multiplier effects in impact studies and benefit cost studies within DOD and other provincial government departments. They are also useful for looking at import substitution opportunities, import-export trade pictures and changes in the economy from 1965 to 1974.

The study results can lead to cost savings when used in impact and benefit cost studies to determine the value of a new project (or an existing one with problems) to the provincial economy and hence whether it should be supported by government or not.

DREE uses the Tables to carry out impact analysis of potential employment and income generation when a large firm applies for an RDIA grant. Similar benefit cost studies are carried out by provincial agencies such as Industrial Estates Limited and the Resources Loan Board.

The Tables are also used for general development strategy planning - for example, to identify outcomes across a number of sectors. Evaluations of sub agreements have also drawn on the Tables. For instance, they were used to reduce the Tourism Sub Agreement from $20-$10 million by screening out a number of lower priority areas.

Tables are currently being updated under another Planning Sub project and will continue to be updated on a five year basis. The on-going update is necessary to reflect the state of energy costs. Approximately two person years are committed to analysing data from the Tables. Outside users such as consultants and APEC can access a non-confidential version of the Tables. Calculations are done on the DOD computer and users are charged for the time.

Since the Tables were valuable to the planning process for both departments, the Planning Sub was an appropriate mechanism for funding the project. Also, neither department would have had the expertise or time to produce a comparable level of effort.

107603-B FEASIBILITY STUDY FOR A CONSTRUCTION TRADES INVENTORY FOR NOVA SCOTIA

A. PROJECT OBJECTIVES

- To determine the feasibility of establishing and maintaining a construction skills inventory for Nova Scotia.
- To determine if the benefits in terms of phasing major projects, developing training programs and improving the regulatory activity concerning apprenticeship and related construction trades training programs outweigh the costs of creating and maintaining this inventory.
- If the analysis supports the feasibility of the project, to undertake general design work that would allow implementation.

B. PROJECT COSTS

Final total shareable cost: $21,000.

Departmental contributions:

DOD	$10,500.
DREE	$10,500.

Departmental administrative costs:

- Estimate of number of hours spent by project team members:

DOD	(unknown)
DREE	1,500 hours
CEIC	210 hours
Labour	600 hours (approximately)

- Cost of staff time including overheads:

DOD	(unknown)
DREE	(unknown)
CEIC	$ 5,000. (approximately)
Labour	(unknown)

- Additional charges: None
- Total known costs: $26,000. (does not include most departmental costs)

C. PROJECT IMPLEMENTATION

Concern had been expressed by several sectors regarding a lack of information available on the number and skill level of the workers in the construction trades. Major projects need this information to plan how many workers will have to be brought into the area or to decide if construction work should be phased over a longer time. Contractors can use the data when they are estimating costs. Government training and upgrading programswould also benefit from a more accurate assessment of the true labour force.

The Voluntary Economic Planning Committee, a group of local business people in liaison with DOD, saw the need for an inventory as a tool for manpower planning. Their perspective viewed the project mainly as a management initiative. However, other groups felt that labour would have to be involved and that the project would have to be more than a one-shot survey. An inter-departmental meeting was held and the Planning Sub was chosen as the most appropriate funding route. Since it would examine the feasibility of an on-going information system, the project could potentially enhance the capability of the province to analyze and plan major development activities. Program III - General Development Planning - was chosen. The project did not relate to physical or resource planning or to a specific development opportunity, but could increase the efficiency of the provincial government to undertake development.

The potential outcomes of the project could impact favourably on the major project planning activities of DOD and DREE. The subject of the study also related to the mandates of the Department of Labour and the Canada Employment and Immigration Commission but neither would have sponsored the project on their own initiative. The Department of Labour had some questions regarding the project's technical feasibility; CEIC headquarters would probably not have supported such a manpower planning exercise at that time.

An alternative funding option was the Adult Occupational Training Act (Section 10). However, the Planning Sub was chosen because it seemed to be more controllable and offered a faster and local approval process.

The project underwent a slight modification as it was implemented. The focus shifted from skills to trades since it was impossible to obtain a listing of aptitudes without extensive testing of respondents. Such testing would not have been cost-effective or politically attractive. As a consequence the inventory included major trades within which there was an assumed range of competence.

The proposal indicated a cost of $20,000 and 13 weeks to complete the project. The budget was exceeded by $1,000 for extra travel to meet labour representatives. The report was also somewhat late since the time required to organize meetings with union people was underestimated. However, the project team was very satisfied with the consultants' performance. The interaction between the contractor and project team members was good and everyone had a clear idea of what was wanted. Interest in the project from the Premier's office and DREE added credibility. Also, the project benefitted from efforts in other jurisdictions which showed how not to carry out such a project.

D. PROJECT OUTCOMES

The feasibility study concluded that a construction skills inventory was feasible but that close cooperation would be required among government, management and labour in order to make it accurate and useful. A steering group consisting of representatives of the Construction Associations and the Trades Council as well as government, was organized. This Steering Committee was charged with the responsibility of developing and promoting the Construction Skills Inventory. An inventory has been prepared and numerous simulations have been conducted on it including one for the dockyards. In addition, there have been reports, forecasts and newsletters. The subsequent project to develop the inventory cost $40,000 and was funded equally by the Department of Labour and CEIC.

The data have not been used extensively by labour for manpower planning. Instead labour has taken a reactive approach, letting the private sector draw on the information. Industry has used the data to produce supply and demand projections and to examine construction trends. The inventory has also had some input to the Canada Manpower Training Program, particularly for apprenticeship.

However, the largest benefit has probably been in project simulation. Identifying problems in labour supply greatly facilitates the planning of projects. For example, the inventory was used to detect a problem in labour supply for the dockyards construction. This information was presented at an interactive planning meeting and the

configuration of the project was changed in one afternoon. Indeed, use of the inventory in any one of a number of simulation studies has paid for the feasibility study. Without it, consultants hired to identify skill supplies would have had to reconstruct data at some cost.

The Construction Trades Inventory is also being used as a model nationally -- for example, in relation to the Construction Investment Information System within IT&C.

Development of the inventory has also enhanced the interchange between government, labour and management in Nova Scotia. However, this benefit may be threatened by the apparent decline in the activity of the Steering Committee. The Committee was charged with implementing and continuing the inventory and distributing forecasts annually to government and industry. The Committee is chaired by the Department of Labour which also has the data and the expertise in using them. Updating of the inventory has not been consistent. Indeed, an update had to be carried out as part of the Scotia Shelf study before the data could be used.

The potential outcome of greater labour stability has not been realized. Part of the problem appears to be that government at all levels is not committed to planning construction projects to be counter-cyclical to the private sector cycles. However, the increased tripartite involvement as a result of the inventory has allowed labour to become more aware of the planning of large projects, providing more time to plan for manpower needs on a project basis.

It is too early to pinpoint employment which has resulted. Also, labour supply is only one factor which might attract potential investors to the province. Indeed there has been some concern that the inventory could frighten projects away by indicating shortfalls. However, it is possible that government could institute remedial action to overcome shortfalls before entering detailed negotiations with a company.

It is unlikely that the provincial government would have proceeded with either the feasibility or the final establishment of the Construction Skills Inventory if both the financial and moral support of the federal government had not been provided at the time. The inventory can be used as a planning tool to avoid problems such as cost overruns due to labour shortage (e.g., the Strait of Canso situation in 1972). As the market for construction skills becomes tighter, the importance of the inventory as a planning tool will increase. However, its value depends on the degree to which it is updated and accessible to key users such as DREE and DOD - usually the first contacts in discussions of large projects.

107603-D TRAVELWAYS PROJECT

A. PROJECT OBJECTIVES

- To evaluate the quality of the existing and proposed travelway system in terms of scenery, road conditions, services and facilities.
- To provide recommendations for improvements to existing systems or designation of new routes in Cape Breton.

B. PROJECT COSTS

Final total shareable cost:

Total	$ 19,486.00

Departmental contributions:

DOD	$ 9,743.00
DREE	$ 9,743.00

Departmental administrative costs:

- Estimate of number of hours spent by project team members:

DOD	20 hours
DREE	1,000 hours (approximate)

- Costs of staff time including overhead:

DOD	(unknown)
DREE	$ 10,000.00

- Total known costs: $ 29,486.00 (underestimate).

C. PROJECT IMPLEMENTATION

The idea originated with the Department of Tourism. The study is closely related to the Tourism Sub-Agreement and the provincial tourism

strategy, particularly the designation area concept. The province was divided into seven tourist regions, each with a different type of appeal. Coastal travelways were then designated along the coastal highways to capitalize on existing travelways and to specify the exact requirements for a complete set of travelways that would circle the shoreline of the Province. The criteria for travelways include:

- Following the coast.
- Being an obvious point of introduction into one region.
- Providing a link from one region to the next.

DREE attempts to impact on the smaller centres in Nova Scotia and feels that drawing more tourist traffic through the smaller communities will help satisfy this objective.

DOD is interested in all aspects of economic development, including tourism. The project was seen as an appropriate application of the Planning Sub Agreement because it was a "study to investigate development opportunities." DOD is jointly responsible with the Department of Tourism to develop the tourism strategy. Designation and detailed investigation of travelways is quite consistent with that activity.

In some ways, the project seems a reasonable fit with the intent of the Planning Sub Agreement. Previously, planning work for Tourism was funded under the ARDA Sub-Agreement which allowed 50-50 cost sharing for projects, including planning studies. Under the Planning Sub Agreement, the Province and DREE can agree to carry out studies which were not originally anticipated when the major Sub Agreements were funded. In other words, the Tourism Sub-Agreement attempts to anticipate the projects which will be required on perhaps a five-year time horizon. The travelways study was not anticipated in that process and could be conveniently funded under the Planning Sub.

However, the linkage with the intent of the Sub-Agreement is somewhat tenuous. It is assumed that if travelways bring tourists to a region, there will be a demand for accommodation, and services in general. That will lead to an additional investment in service, facilities and infrastructure, thereby generally satisfying the intent of the Sub-Agreement.

Although copies were limited, the local tourism association was aware of the study. The process proceeds as follows:

- The study identified the potential and the necessary work still to be completed.
- The study was made available to the Tourist Association (perhaps the general public).
- Pressure is brought to bear on local politicians.
- Improvements are made, such as paving roads, etc.
- Then the section of the travelways is designated and tourism is expanded.

Responsibility for implementation of recommendations is not clear. The Department of Transport, Lands and Forests, Environment, Municipalities and Recreation, all have interests in one or another aspects of the study. Clearly, tourism is not the dominant criteria for highway development. Nevertheless, through the process described above, the study team judges that the study has been useful in promoting tourism interests.

Long-term employment is extremely difficult to attribute to a study such as this. No attempt has been made to identify employment impact.

The key benefit of this study was to produce a clear statement of the anticipated routing of new travelways and the priorities of infrastructure required to complete the travelways. This has allowed the Department to respond to local pressure and forestall arguments from local interest groups wishing to see their particular section of road included in the travelways. A secondary benefit has been a priority list of improvements that will be necessary for the travelways to realize their potential and, indeed, to be officially proclaimed.

The costs of the study were clearly warranted. The study team was unanimous that it was a good investment. The Planning Sub in this and other projects has acted as something of a "catch-all." As such it serves a most useful function -- allowing DREE and provincial departments to fund studies which otherwise could not be funded under arrangements such as other sub-agreements. The sub-agreement tends to be relatively rigid, pre-specifying the activities that will be included. If new ideas come up or short-term studies are required, they can be funded under the Planning Sub-Agreement as a most useful complement to the planning activities in the departments.

The objectives of the project were unchanged as it was implemented. The study team feels that the final output of the study satisfied the original terms of reference.

The project was completed on time and well within budget -- they returned about $6,500 to the Sub-Agreement.

The study team would not change any aspects of the project implementation on future projects. It was felt that the project may have produced a useful new methodology in rating the relative attractiveness or appeal of different areas of the travelways. The technique of working with students on short-term projects may have been useful in designing and managing the Tourism Inventory Project which was initiated in its pilot phase when this project was being done.

It wasn't clear that the methodology had been used again -- it may have been a piece of general background information of use to individuals. The students hired to do the survey benefitted: two were subsequently hired by the Department of Tourism.

D. PROJECT OUTCOMES

Clearly the project supported the Tourism Sub-Agreement.

The Ceilidh Trail was officially designated and publicized. Part of the Fleur-de-Lis Trail was also designated as a result of this project.

Once the travelways were designated, local groups of people identified day-trips from the major centres on the travelways. As a consequence, operators may have been able to retain people for additional overnight accommodation. Once the local people had described the day-trip, the tourism planner and a writer would review the work, review the day-trip and help produce a brochure describing it. But generally these day-trips are successful only if local tourism operators discuss them with tourists and actively promote the day-trips. A simple brochure is not sufficient.

Additional travelways or sections of travelways have been identified and will be officially designated and advertised when necessary work has been completed. For example, one section of the Fleur-de-Lis Trail is not paved and has no local services available. The study has helped the Department resist local pressure to open that part of the travelways, preferring to wait until all the necessary infra-structure has been provided.