PROGRESS REPORT ON THE DEVELOPMENT OF AN EVALUATION STRATEGY FOR THE CAPITAL COMPONENTS OF THE IIA COMUNITY INFRASTRUCTURE AND SERVICES RPOGRAM

PROGRESS REPORT

ON THE DEVELOPMENT OF AN EVALUATION STRATEGY

FOR THE CAPITAL COMPONENTS OF THE IIA COMMUNITY INFRASTRUCTURE

AND SERVICES PROGRAM

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CONTENT PAGE

Status Report 1

Snapshot Picture of Program 8

Program Background, Issues and Evaluation Opportunities

1. Housing 29

2. Infrastructure 39

3. Educational Facilities 51

The Process and Participants 60

Maintenance 67

Evaluability Assessment 69

Appendix

1. Evaluations to Date 75

2. TB Authorities 78

3. Documents Examined 82

TABLES PAGE

Table 1. Selected Historical Expenditure Data 11

Table 2. FY 78/79 Capital Expenditures by Program Area 12

Table 3. Selected Longitudinal Capital Expenditure Data 14

Table 4. Regional Distribution of Selected Expenditures - FY 78/79 15

Table 5. Capital and O&M Expenditures for Utilities and Roads from FY 72/73 17

Table 6. Percentage of Capital Appropriations Administered by Bands since Person-Years 74/75 18

Table 7. E&A Authorized Person-Years November, 1978 20

Table 8. Capital Person-Years Utilized at 31/3/79 22

Table 9. Completions and Repairs of Indian Housing 24

Table 10. Percentage of On-Reserve Houses with Basic Infrastructure 25

Table 11. Regional Distribution of New Housing and Relative Benefit FY 77/78 27

Table 12. Physical Development Data 28

CHARTS PAGE

Capital Program within IIA, Program Structure 2

Evaluability Assessment - Provision of Shelter 72

Evaluability Assessment - Infrastructure 73

Evaluability Assessment - Educational Facilities 74

STATUS REPORT

STATUS REPORT

Background

The evaluation of the IIA Capital Program is the third major priority area for Program Evaluation Branch after the Education and Social Assistance areas. The Capital Program forms a large component of the total IIA budget, in FY 78/79, $127 million of the total $650 million was forecast to be spent on capital projects---close to 20% of the total budget. The program has also been a rapidly increasing expenditure item in absolute terms.

Questions have recently been raised about the efficiency and effectiveness of the program. For example, the Auditor General's SPICE report on school construction examined problems in project execution, in 1978. Furthermore, the current environment for financial restraint and the related evaluation atmosphere have brought the program into focus for evaluation.

The chart following shows the IIA program structure within which the capital sub-activities are highlighted.

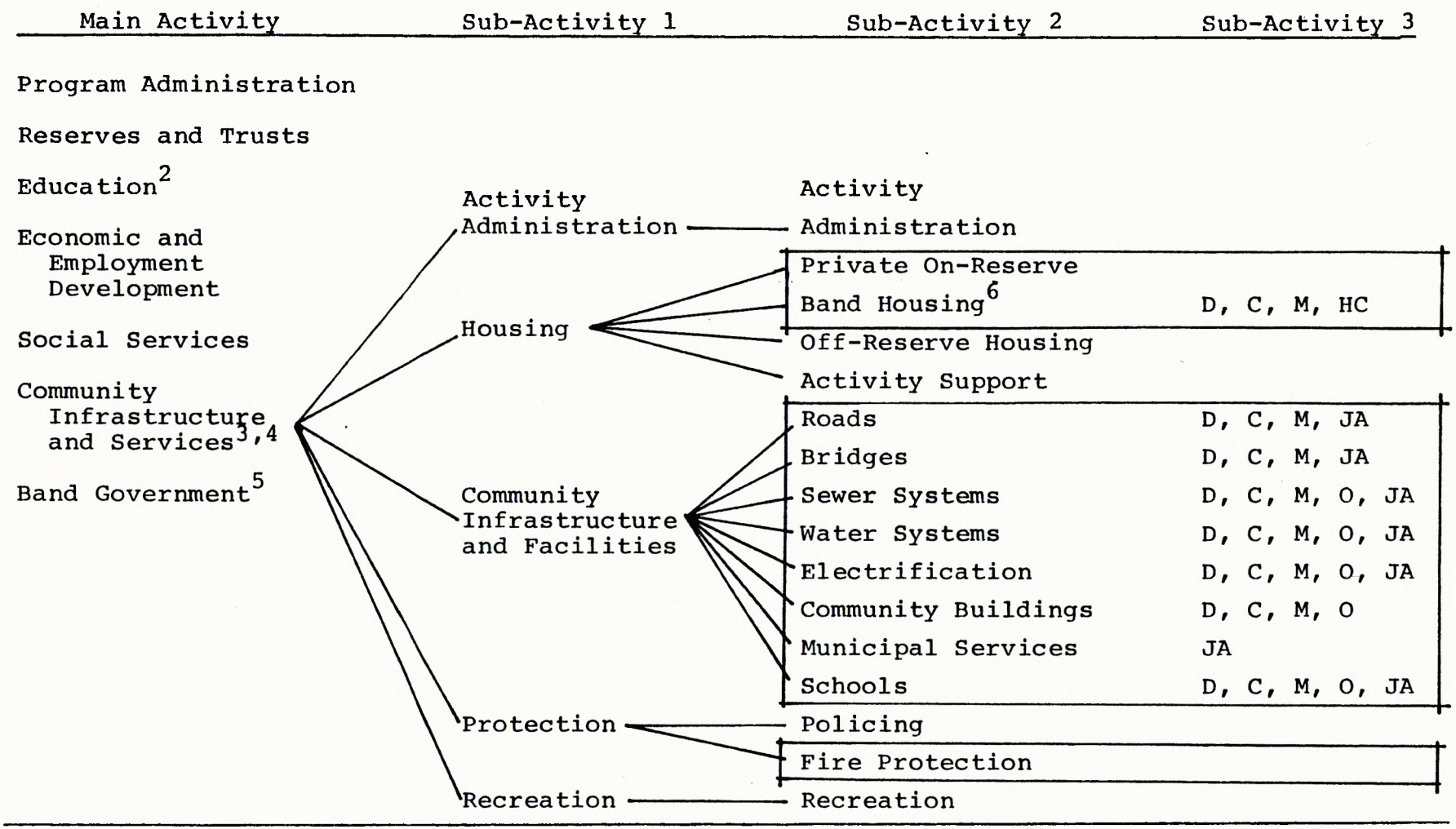
Objectives and Tasks

The PEB acquired an evaluator to undertake the above task on April 2, 1979. The evaluator developed terms of reference, dated May 2, 1979. The terms of reference contain the following objectives:

1. develop an overall program effectiveness evaluation strategy for the IIA Capital Program; and

CAPITAL PROGRAM ELEMENTS (Boxed in)

WITHIN IIA PROGRAM STRUCTURE[1]



Notes on following page.

Notes for IIA Program Structure Chart

1 Structure taken from "Indian and Inuit Affairs Program. Program Activity Structure and Definitions for Implementation, April 1, 1979". Sub-activities are shown only for the one main activity which includes all capital expenditures.

2 This activity includes only programs and services and not facilities, i.e.: schools.

3 The IIA sub-objective for this Activity in the FY 79/80 Estimates reads: "To assist and support Indian and Inuit communities and individuals to meet their requirements in housing and other physical facilities".

4 The IIA program statement for this Activity in the FY 79/80 Estimates reads: "Provide support for the physical improvement and protection of communities including housing, essential community services and recreational facilities".

5 This Activity includes funds for planning reserves, a desirable function in identifying the need, location and phasing of capital improvements.

6 Abbreviations: D - design; C - construction: M - maintenance; O - operation; JA - joint agreements; HC - housing committees.

2. identify priority evaluation tasks for action late in 1979/80 through the 1980/81 fiscal year.

The terms of reference also contain the following tasks:

1. using available information, describe the IIA Capital Program in terms of its components and contextual factors, supported by available data;

2. identify the major elements of the Capital Program process and participants in program execution;

3. conduct a simplified evaluability assessment of the program components;

4. describe contextual factors and issue areas;

5. identify evaluation projects;

6. rank the identified projects;

7. prepare a progress report by the end of May, 1979; and

8. prepare a strategy paper subsequent to inputs by an Headquarters Advisory Committee and consultations with the regions.

Status of Work

This progress report responds to item No. 7, and covers items 1 through 4. Specific projects or evaluation areas will be identified and ranked subsequent to consultations.

The work to date can be characterized by a number of factors. There has not been any original research done to date; the intent was to pull together existing material available at HQ relevant to evaluation. Previous studies, TB authorities, DINA Guidelines and Circulars and various policy papers were combed for information on the capital program. The housing and infrastructure areas have been examined in detail since 1977 and numerous papers provided useful insights into problems, issues and ambiguities; much less work appears to exist on educational facilities.

One other aspect of this exercise was to collect some data on program inputs and outputs from easily available sources at HQ. The purpose was to provide some measure of the dimensions of the program. It has soon become clear that there is not much data easily available, especially in the educational facilities area beyond TB submissions. However, before any data collection is commenced, the evaluation strategy should be developed and specific projects identified--and then the appropriate data collected.

It is also important to note that the strategy considers only the DINA capital program. Capital moneys and manpower for on-reserve capital projects come from many sources; from various agencies at all levels, e.g.: DREE Northlands Agreement. This evaluation focuses on DINA efforts, which provide part of the funds and manpower, probably a large part, for capital works on reserves.

Finally, it is noted that there is no Capital Program per se, but, rather, there are programs: (1) to assist Indians in acquiring shelter; (2) to provide infrastructure elements on reserves; and (3) to provide educational facilities. Capital programming is a management technique for rolling up capital projects serving program objectives in a multi-year time frame. The purpose of capital programming is the planned construction and extension of facilities, services and utilities. Nonetheless, the physical improvements on reserves assisted by DINA funds could be considered to form a program in possibly two senses:

1. as a labor intensive program providing Indians with an opportunity for employment, skill development and management experience; and

2. as a manageable and discrete chunk of DINA activity, amenable to evaluation on its own.

As a result, it would appear useful to structure evaluation projects in terms which are unique to the capital programming process and less in terms of functional areas, such as schools and housing. Yet, one has

to ensure that specific clients should exist for specific evaluation projects and one may have some difficulty in identifying clients responsible for the capital program in general; program managers exist for education, housing and so forth.

It is important to realize that the purposes of the program are not construction per se, but rather, the provision of shelter, etc. By following this perspective one may ask the very basic questions of whether other alternatives are available reflecting the current social and economic environment of Indians as well as the broader Canadian context. More will be said on this matter later.

Future Course of Action

As outlined in the Terms of Reference, this progress report should be distributed to regions and some headquarters officials for review and comment by way of a questionnaire survey to which this report is attached, to be followed up by consultations in selected regions.

Subsequent to the above actions, a draft Effectiveness Strategy Paper for the Evaluation of the Capital Program would be developed. A key component of this exercise will be the development of evaluability assessment; a determination of what aspects of a program could be subject to effectiveness evaluation. Often programs are loosely defined and the accomplishment of objectives is difficult to quantify. As a consequence, the first step in evaluability assessment is to identify those aspects of a program which can be measured and evaluated - a beginning was made in this regard in the chapter on evaluability assessment.

SNAPSHOT PICTURE OF PROGRAM

SNAPSHOT PICTURE OF PROGRAM

The purpose of this section is to provide a number of perspectives on the program--supported by quantitative data. It is useful to provide overviews of the program:

- historically, discerning particular growth patterns;

- regionally, observing the distribution of activity by region and its relationship to regional Indian populations, and

- functionally, examining the relative size of effort in the housing, infrastructure and other program areas.

The program input variables are expenditures and person-years; the outputs are housing, infrastructure, schools and so forth.

An examination of large and fast increasing expenditure items may result in evaluation tasks. The uneven distribution of manpower relative to the distribution of capital expenditures could also form the basis for evaluation projects. Output data may demonstrate whether or not objectives are being met.

The Availability of Data

The best source of expenditure data appears to be the DSS series on expenditures, available from the IIA Finance Branch. The Community Services Branch makes use of this data, and also develops output data from field questionnaires on the number of housing units completed, miles of road reconstructured and so forth. Unfortunately, capital construction data has yet to be collected at a national level on schools. The Community Services Branch also collects O & M data related to the capital program--outside of schools--from the DSS source. The Statistics Division prepares annual data summaries on physical development from information collected by Community Services. And, of course, the Estimates provide data.

Information on capital person-years was procured from the Finance and Management Branch, although caution should be exercised in using it due to the misallocation of some O & M person-years to capital projects such as cooks and janitors.

One other source of information is the quarterly printout of Program Forecast, Capital Projects. This printout lists all ongoing capital projects; expenditure totals; expenditures to date, and proposed expenditures annually for the next five years. Although a useful doucment for future expenditures, it does not contain historical data. In addition, some of the figures are suspect. For example, the DSS Expenditure series show $37 million for housing for FY 78/79, while the quarterly printout dated march 14, 1979, has $47.7 million for the same. The DSS data would appear to be more accurate since it is based on actual expenditures.

The tables following use all data sources; however, no close checks were made as to their reliability. Specific evaluation tasks should examine the accuracy of much of the data and develop new information as appropriate.

Expenditure Patterns

1. IIA capital expenditures form approximately 20% of the annual IIA budgets since FY 73/74. Table 1 shows that although the relative share has been decreasing, capital expenditures have been increasing in absolute terms over 10% per annum, with the exception of FY 77/78. But this rate of increase is not too different from inflation in some economic indices. For example, the Statistics Canada non-residential building construction idea rose 65.5% from March, 1973 to March 1978. Discounting to present values, means, therefore, that capital program funds from FY 73/74 to FY 78/79 grew only by 15.1%, or approximately 3% per annum.

2. Close to 30% of the capital expenditures were spent on housing in FY 78/79, followed by utilities and roads at 23.9%, and schools at 18.5%. Table 2 shows that 72% of the capital expenditures were spent on these three areas. Evaluation priorities may reflect these high expenditure items. Is the current allocation of capital funds the most beneficial and does it reflect Indian aspirations? And how is the allocation of funds arrived at?

TABLE 1

Selected Historical
Expenditure Data

FY	IIA Total $ millions	Vote 10 $ millions	Vote 10 as % of Total	% increase In Vote 10 year-to-year
		Expenditures		
73/74	335.5	70.7	21.0	-
74/75	392.6	80.5	20.0	13.8
75/76	459.0	88.7	19.4	10.4
76/77	554.6	108.7	19.6	22.3
		Estimates		
77/78	628.0	111.8	17.8	2.7
78/79	647.0	127.5	17.6	14.0

Source: Estimates and derivations from Estimates

TABLE 2

FY 78/79 Capital Expenditures
by Program Areas

FY 78/79 Estimates	$ Million	%
Housing	37.8	29.7
Utilities and Roads	30.5	23.9
Schools	23.5	18.4
Community Halls/Other	13.9	10.9
Educational other than Schools (residences, etc.)	13.7	10.8
Economic Development	6.1	4.9
Administration	1.9	1.4
Totals	127.4	100.0

Source: Estimates and DSS Expenditure Reports

Note: Data are not totally consistent since expenditures and estimates are mixed, but satisfactory for the purposes of this study.

3. A somewhat different perspective is given housing, utilities and roads and school construction in Table 3. Historically, expenditures for housing do not show peculiarities, while the infrastructure sector shows steep and increasing annual increases from 14% to 26% in the period from FY 74/75 to FY 78/79. In contrast, school construction expenditures have remained fairly stable in the same period, between $21 and $24 million per annum. Does this mean that IIA has met the need? Or, has IIA changed its priorities? Stable expenditures mean less construction because of increasing construction costs. The same holds for housing.

4. Do all the regions benefit equally from capital expenditures? The regional distribution of expenditures for housing, utilities and roads and schools is shown in Table 4, for FY 78/79. It appears that the total of these expenditures is allocated among the regions in pretty much the same proportion as the size of the on-reserve population in the regions. One may alternatively interpret this situation:

   - that funds are allocated annually more or less on a per capita basis;

   - that the needs are similar in the regions and proportional to population size, and

   - that the needs are different in the regions but summing across in a number of program areas, the results are proportional to the regional populations.

TABLE 3

Selected Longitudinal Capital Expenditures Data

FY	Housing $ M	Housing %	Utilities and Roads $ M	Utilities and Roads %	Schools $ M	Schools %
74/75	28.1	-	15.5	-	24.3	-
75/76	30.3	7.8	17.7	14.2	25.9	6.6
76/77	32.9	8.6	20.7	16.9	20.9	(17.3)
77/78	39.1	18.8	24.2	16.9	20.9	0
78/79	37.9	(3.3)	30.5	26.0	23.5	12.4

Source: DSS Expenditure Reports

Note: Utilities and Roads include water, sewer, electricity, roads and bridges. Parentheses mean decreases.

TABLE 4

Regional Distribution of Selected Expenditures - FY 78/79

Region	Housing $ M	Utilities and Roads	Schools $ M	Total $ M	%	Benefiting Population*	%
Atlantic	1.8	1.3	1.4	4.5	4.9	8,185	3.9
Quebec	4.5	6.9	1.3	12.5	13.6	27,227	13.0
Ontario	5.2	9.5	4.1	16.8	18.3	45,211	21.6
Manitoba	7.1	3.3	4.5	14.9	16.3	32,428	15.5
Saskatchewan	6.7	1.9	5.9	14.5	15.8	31,589	15.0
Alberta	5.6	2.8	4.2	12.6	13.8	27,472	13.1
Yukon	1.0	0.3	0.1	1.4	1.6	2,651	1.2
B.C.	6.0	6.4	1.9	14.3	15.7	34,684	16.6
Totals	37.7	30.5	23.4	91.5	100	209,447	99.9

Sources: DSS Expenditure Reports and Statistics Division compilations

*Registered Indian and Inuit population on-reserve and on Crown land, 1977

5. Concern has often been expressed that the lack of O & M has resulted in premature deterioration of capital works. Table 5 shows O & M expenditures associated with utilities and roads historically--the data was drawn from DSS Reports. It is interesting to observe that O & M as a percentage of annual capital expenditures has more than doubled since FY 72/73. Clearly such a comparison is tenuous because O & M relates to all capital assets while the expenditures shown are annual increments to the value of the capital asset inventory. It is also a tenuous comparison because the O & M figures shown could be mostly operational funds, ignoring the maintenance function. Finally, O&M should clearly be a steeply increasing item compared to capital expenditures because the latter are one-shot expenditures while the former are continuing ones. What is important, however, is the possibility of a shifting emphasis in annual expenditures from new construction to O & M. One may wish to examine life-cycle costing of capital projects under various O & M assumptions.

6. Project delivery has been the subject of intense discussions. That Indian Bands are assuming an increasing share of project delivery is shown in Table 6. Evaluations should distinguish between those projects managed by the Bands and those managed by IIA and/or DPW---different considerations should enter the evaluations.

TABLE 5

Capital and O & M
Expenditures for Utilities
and Roads from FY 72/73

FY	Capital $ Million	O & M $ Million	O & M as % of Capital
72/73	11.4	2.2	15.0
73/74	15.5	2.8	18.1
74/75	15.5	3.5	22.9
75/76	17.4	4.6	26.4
76/77	20.7	6.1	29.4
77/78	24.2	7.5	31.3
78/79	30.5	10.4	34.2

Source: Community Services Branch and DSS Expenditure Reports.

TABLE 6

Percentage of Capital Appropriations
Administered by Bands since FY 74/75

Physical Development FY	74/75	75/76	76/77	77/78
Housing	54	59	68	69
Roads	43	46	63	66
Sanitation	37	36	46	53
Electricity	5	7	11	37
Community Facilities	32	32	64	73

Source: Community Services Branch

Person Year Inputs

7. Numerous people are involved at IIA with capital works, including program officers, engineers, architects and general laborers employed at construction sites. On the one hand, it is difficult to assess how many people are involved with capital works since many people spend only a part of their time in such activities. On the other hand, it is important to assess whether or not the number of people involved in such activities is of a sufficient number and quality to manage what has become a $127 million enterprise in FY 78/79.

The concept of a core function is useful in dealing with the numerous actors in the capital program. Core activities are those dealing with the programming, managing and monitoring of project development and execution deemed essential for controlling the program. Other functions could be contracted out to consultants, contractors, Bands or other departments and agencies. In this context, there is a minimum number of people at IIA who are necessary for administering core responsibilities. These responsibilities are discharged by officials at all levels including program managers, engineers and architects.

The E & A Branch of IIA houses people engaged in performing core functions. Table 7 shows the current distribution of E & A person-years in the regions concerned with the IIA Capital Program.

TABLE 7

E & A Authorized Person-Years
November, 1978

Region	Authorized Person-Years	
	Regional Office	District
Atlantic	8	5
Quebec	25	40
Ontario	36	22
Manitoba	31	9
Saskatchewan	11	22
Alberta	26	33
Yukon	5	-
B.C.	30	23
Totals	172	154

Source: E & A Branch

One may examine the regional expenditure distribution of the program relative to the person-year distribution. Caution should be exercised in such an undertaking because the core function may vary with different types of projects.

8. Capital person-years are also utilized by the regions as shown in Table 8. Such person-years are defined to be those associated with, and charged to, specific capital projects and which, therefore, must not be "indeterminate" positions. The IIA Finance Branch cautioned, though, that the data may not be totally reliable because of the inappropriate use of Capital person-years.

Outside of E & A Branch personnel and capital person-years, it would be difficult to put a number to all program managers and officers engaged in the capital program from time to time, at HQ and at the regions of IIA; there was over 300 person-years in FY78/79 in the Community Infrastructure program, but some of these resources would not be involved with capital funds. There would be additional resources as well in finance and other branches dealing with capital funds. And it would be the subject of a separate research project to identify all those people involved with the IIA Capital Program working at DPW and other federal agencies as well as in the field including the numerous consultants, contractors and Indians. It is clear, however, that the large number of people involved and the complex inter-relationships existing in any one capital project generate coordination problems and may be the subject of evaluations.

TABLE 8

Capital Person-Years
Utilized during FY 78/79

Region	C/A	Education	Admin.	Econ. Dev.	Totals
Atlantic	-	-	-	-	-
Quebec	10.3	1.5	.5	-	12.3
Ontario	5.8	15.7	.2	.6	22.3
Manitoba	6.5	9.9	-	-	16.4
Saskatchewan	44.5	16.4	1.6	.1	62.4
Alberta	6.3	.1	-	-	6.4
Yukon	.1	.7	-	-	.8
B.C.	1.8	.1	-	-	1.9
Totals	75.3	44.4	2.3	.7	122.7

Source: IIA Finance and Management Branch

Note: Method of calculation involved dividing total capital person-year expenditures by the average salary of a GL person. The numbers in the table are full-time equivalents, quite probably the duration of jobs was less than 12 months.

Output Characteristics

9. The Community Services Branch at Headquarters has been collecting output data on housing and infrastructure improvements and will collect data on school construction as well in the future.

Table 9 shows house construction since FY 73/74. It appears that completions have mildly increased, but one may wonder about delivery capacity generally. What are the essential ingredients for successful delivery and what could be done to, say, double deliveries, if such an objective was set? The expenditures for major repairs have doubled over the past five years. Relating this trend to trends in construction cost indeces, one may examine if, in fact, more housing units are repaired today than five years ago. This examination could be especially valuable in view of the fast growth of the housing stock on reserves.

10. Housing conditions with respect to supporting infrastructure have substantially improved on-reserves, as shown by Table 10. This finding is in conformity with the fast increasing expenditure pattern for infrastructure, shown in Table 3. Caution should be exercised, though, in interpreting Table 10. Deletions from the on-reserve housing stock may increase the percentage of houses with basic infrastructure, but with a completion rate not sufficient for replacement may also lead to more overcrowding than before.

TABLE 9

Completions and Repairs
of Indian Houses

FY	Houses Completed	Houses Deleted	Cost of Major Repairs $ M
73/74	1,791	232	3.9
74/75	1,751	1,669	4.4
75/76	1,819	140	6.0
76/77	2,084	164	5.8
77/78	2,132	212	8.0

Source: Community Services Branch.

Note: Major repairs are renovations funded by the Capital Vote.

TABLE 10

Percentage of On-Reserve
Houses with Basic Infrastructure

Year	Electricity	Running Water	Sewage Disposal
1963	44	14	8
1965	48	16	10
1967	57	19	12
1969	73	20	18
1971	77	30	24
1973	82	42	35
1975	82	43	38
1977	88	49	44

Source: Biennial Housing Surveys

11. The regional distribution of house completions shows that on a per on-reserve family basis, there are wide differences among the regions as shown in Table 11. In B.C. only 3.4% of families benefitted from assistance to a new house, while in the Yukon the corresponding number is 7.8%, in FY 77/78. These differences could be explained by various regional needs and/or various regional delivery capacities and mechanisms.

12. Finally, the infrastructure output data contained in Table 12 shows a very slightly increasing output trend historically.

TABLE 11

Regional Distribution of New Housing and Relative Benefit - FY 77/78

Region	Houses Completed	Families on Reserve Dec. 1977	% of families assisted to a new house
Atlantic	69	1,919	3.6
Quebec	198	4,818	4.1
Ontario	484	10,045	4.8
Manitoba	368	6,057	6.0
Saskatchewan	318	5,627	5.6
Alberta	377	5,445	7.0
Yukon	33	453	7.8
B.C.	285	8,230	3.4
Total	2,132	42,594	5.0

Source: Community Services Branch and Kuhn Study on Housing (1978)

TABLE 12

Physical Development Data

Physical Development	FY 73/74	74/75	75/76	76/77	77/78
Road Improvements (miles)[1]	263	345	328	489	393
Houses wired with Electricity[2]	1,151	1,077	2,711	3,059	1,034
Water Systems constructed	232	115	60	101	120
Sewage Systems constructed	130	61	39	49	18
Wells constructed	404	360	591	607	600
Septic Tanks constructed	587	528	528	705	823

Source: Community Services Branch

Notes: 1 Road improvements include: new dirt roads completed; new gravel roads completed; new paved roads completed and reconstructed roads.

2 There are data gaps - it is not clear whether information shown for all fiscal years is consistent. In some years only new houses wired for electricity were shown, in others, both new and existing houses wired for electricity were shown.

PROGRAM BACKGROUND,

ISSUES AND EVALUATION OPPORTUNITIES

HOUSING - ISSUES AND EVALUATION OPPORTUNITIES

Background

IIA entered the housing field a few decades ago. After the war, the provision of housing was given priority over the quality of the housing units. Ten thousand "shelter units" were produced between 1945 and 1961 forming a transition from tents to shacks to poorly insulated dwellings for many Indian people. The average cost was approximately $2,357 per unit. By 1961, the housing shortage had not been reduced.

In 1962, the concept of subsidized housing was introduced designed to provide Indian families with a minimum standard house. Houses were insulated and a few were equipped with electricity, but not with indoor plumbing. The average cost per unit totalled $3,667 including funds from the Government, Bands and personal contributions. Personal contributions were nil or limited in most cases.

In 1965, the Federal Government announced a new policy that Indian communities should have housing units of a size and quality comparable to those of other Canadian communities. New and renovated housing units were to meet National Housing Act standards. Running water, indoor toilets and electricity were to be provided in areas where such facilities were normally included in non-Indian houses.

From the early sixties to 1976, the on-reserve Indian housing program was formed by three components. One was the Subsidy Housing Program providing housing subsidies for the construction or renovation of a house. The second one was financing, in the form of CMHC loans guaranteed by the Minister of Indian Affairs. The third component was the availability of funds from Federal work programs, to be used as "equity" in building houses or as loans for labor.

These three components did not coalesce into an explicit Indian housing policy supported by the Indian people. Housing was not treated as part of a comprehensive approach to meet the needs of Indian communities. There was limited inter-departmental co-ordination of the resources that could be deployed to meet Indian housing needs, and some programs were impeded by legislative or other obstacles for full application on Indian reserves. Partially as a result of these factors, overcrowding persisted pointing to a shortage of housing units. Furthermore, the materials used were often unsatisfactory. Repair and maintenance were minimal, and many houses had no sanitation facilities or electricity. In addition, housing designs often did not reflect the wishes or needs of Indian families. Finally, there was little participation by Indian people in housing program planning or administration, and little input into the development of housing policy.

It was with increasing awareness of these shortcomings that the Indian people took steps to increase their involvement in all aspects of housing. The National Indian Brotherhood got involved with the development of a housing policy which later became the basis of a Joint NIB/Government housing policy document. In 1976, the policies proposed by the Joint Working Group of the NIB and the Government became official policy.

The principles of the policy focus on: (1) the establishment of priority for those Indian people of extremely low income; (2) the maintenance of the Department's lead role in the provision of housing activities; (3) loan and subsidy amounts geared to income; (4) the use of the housing resources of other federal departments and provincial agencies; (5) the preservation of the special status of reserve lands, and (6) the emphasis of the need for Indian people to have direct input at every level of housing policy development and program management.

The new housing program is based on the preceding policy principles and is designed by consultation between NIB and IIA to meet these basic objectives:

- to build adequate housing and supporting facilities to meet the needs of all on-reserve Indian people;

- to encourage Indian people in their aspirations to participate fully in shaping and directing all housing related policies and programs affecting their lives; and

- to develop housing and physical improvement construction programs responsive to the local conditions of the communities in which they are initiated.

The main features of the program are perceived to be:

- a Housing Assistance Formula providing for: (1) a subsidy according to an individual's ability to pay; (2) a personal commitment, either in cash, or in labour, and (3) an equity generating component which would use employment programs such as those of DINA and CEIC to generate approximately two-thirds of the labor component of the unit's cost;

- a Program Delivery System responsive to Indian decision making, supportive of the concept of Indian people managing their own affairs and flexible in meeting a wide range of differing housing needs and conditions. The delivery mechanism would be designed to be active at three levels: the Band, the Area/Regional, and the National. Responsibility for the design, construction and operation of housing on the reserves would be placed in the hands of the Band Council. At the regional level, policy decisions would be made by the Area/Regional Indian Housing Councils comprised of Indian people and IIA staff, and at the national level by the National Indian Housing Council, comprised of similar membership; and

- emphasis on the orderly and coordinated deployment of Federal housing-related resources, including CEIC, CMHC, and DREE, under the leadership of DINA. The Department would assume the coordination role by acting as the single centre of responsibility to mobilize funds and resources. This would be done by securing program commitments from key agencies, such as CEIC for job training and work opportunity programs, DREE for certain infrastructure programs, and CMHC for loan funds.

The housing program of today is designed to assist Bands to move towards assumption of administration, design, construction and operation of housing on reserves. With proper implementation, it is to stimulate the Band economic sector through the potential formation of Indian-owned and operated enterprises in construction, building materials supply, manufacturing of housing components, transportation of goods and other related service industries. Wherever possible, the program dollars are to be perceived as having two functions: the first to provide housing and the second to provide for social and economic development at the Band level.

Problems, Issues and Contextual Factors

The lack of data and information severely hampers efforts to put a handle on the assessment of housing needs. In contrast to CMHC methods of studying need in terms of adequacy, affordability and suitability, only a rough approximation is possible with on-reserve housing. Lack of information on household income and shelter expenditure does not permit an examination of housing affordability. And suitability and adequacy matters are related to cultural factors, needing further examination.

The assessment of housing conditions relates crucially to the original construction methods and materials and also to maintenance. The technical performance of the on-reserve housing stock has not been satisfactory because of the low quality of the housing stock and the lack of maintenance. Although the shortage of housing stock has marginally been reduced by the recent rate of house construction, the number of houses needing major repairs has actually increased in spite of record numbers of houses renovated. The main reason appears to be the lack of maintenance and the low quality of the original construction. Recent studies show that the on-reserve annual housing loss is approximately 3% and the annual on-reserve housing stock requiring major repairs is approximately 10% of the total housing stock.

Other major reasons for the generally speaking unsatisfactory housing stocks on-reserves are: (1) the high percentage of Indians with no or low incomes, who are unable to afford the level of housing enjoyed by other Canadians; (2) the insufficiency of subsidies per unit, resulting in substandard construction as well as the inability to utilize skilled tradesmen; (3) the lack of adequate skilled Indians to undertake construction; (4) the unwillingness in Indian communities to use loans and (5) lack of application and enforcement of standards.

Another interesting aspect of Indian housing is the fact that there is nothing comparable on reserves to a "housing market". The interest in land is not in "freehold" but by "possession and occupation" and the legal framework is extremely complex. Questions surround even such a simple Western notion as home ownership; it is unclear who actually owns on-reserve housing units. The transfer of land and home ownership is difficult at best although the costs are low, reflecting economic conditions on reservations. The "market" value of a house on a reserve, if it can be called called that, may reflect construction costs or an amount less than that, depending upon demand. And demand may largely reflect the assets available to individual Indians. As was mentioned previously, a high percentage of Indians have either no income or a low income, one reason for the lack of a housing market on reserves. Consequently, there may be precious little incentive to improve housing units by investing scarce personal assets.

The most pervading and persistent theme running through recent discussions of on-reserve housing is the need for Indian participation in all aspects of housing decision making. The concept of Indians controlling their housing program is a prime objective in housing delivery, from planning to construction. The underlying rationale is manyfold. Housing provides employment, and skill and management training. It does or should reflect native cultural mores and local conditions. Because of the widespread settlement pattern of Indians and their rich cultural heritage, no centralized control is desirable. Hence the overriding objective for local control and delivery mechanisms.

Opportunities for Evaluation

Successful implementation of the current housing policy requires the elimination of the housing shortage and a reduction in the rate of physical deterioration of existing housing. Milestones in the implementation of the housing program could be established against which performance can be measured. After all, the overall objective of the evaluation strategy for the Housing Program would appear to be to provide Indian leaders and Government managers with information on performance, on the basis of which, adjustments can be made as necessary.

In this sense, information could be sought on:

- the quantity and quality of housing being constructed annually, essentially a management information system;

- the adequacy and suitability of techniques, and standards used in house construction;

- the impact of maintenance practices on the rate of deterioration of housing units;

- housing costs contrasted to the availability of funds;

- the satisfaction of Indian people with housing design and performance; and

- the allocation of housing funds against need;

Delivery is also an important consideration. An assessment could be made of the extent to which the various Indian and Federal Government departments and agencies at all levels are able to develop and maintain an effective housing delivery system based on the full involvement of Indian communities in the planning, design, construction and maintenance of housing units on reserves.

In the long run, information could be sought on:

- health characteristics related to living in better quality housing stock;

- study patterns by Indian children and hopefully, the reduced drop-out rate from schools;

- frequency on fires, hopefully the incidence of fires reduced because of better quality housing stock. There is already some statistical information available on fires, and

- overcrowding, hopefully reduced by the housing program.

Finally, a very important component of the program is the creation of employment, the provision of uopportunities for training, for job experience and the development of management skills. Evaluation projects could focus on the extent to which such possibilities have been exploited for the benefit of the Indian people.

INFRASTRUCTURE - ISSUES AND EVALUATION OPPORTUNITIES

Background

The program and its components have been articulated in a number of submissions to Cabinet. The first comprehensive statement calling for a Community Development Program was submitted to Cabinet in 1964. The basic rationale given concerned the improvement of the economic, social and cultural life of Indians. The focus was on planning and on the recruitment and training of community development specialists. Comprehensively developed communities on Indian reserves were envisioned through the use of architects, engineers, surveyors and the like. In conjunction with Indian Bands, it was necessary to develop community plans which would include plans for:

- water and sewer services for minimum sanitation levels;

- electricity to provide lighting for study purposes and power for small appliances, communications and future industrial development; and

- roads providing mobility both on and off reserves to schools, areas of employment and other needs.

The submission asked for $250,000 per annumm for planning services.

Emphasis was given to the provision of electricity in a Cabinet submission in 1965. In that document arguments were made that the lack of lighting in many housing units has contributed to a high drop-out rate from schools. In turn, the lack of formal education has created obstacles for gainful employment for many Indians. This submission asked for $7 million for the provision of electricity over a five-year period ending in 1969/70.

The Cabinet approved in principle a five year capital program for the development of Indian communities in 1966. The submission supporting the proposal pointed out that only 46% of Indian houses had electricity, that sewer or septic tanks served only 10% of Indian houses, and only 15% of the units had running water. It stated that the lack of safe drinking water, proper sanitation and services were major factors in an infant mortality rate of 69.2 deaths per 1,000 live births, which was 2.75 times the national rate of 25.1 per 1,000. The submission reviewed other aspects of the generally run-down social facilities on reserves and the consequent low levels of health and morale.

The capital program for infrastructure approved at this time was planned as a five-year $37 million improvement as follows:

Infrastructure	$ million
Sanitation	9.6
Electrification	6.9
Roads and Bridges	16.8
Community planning	1.3
Contingencies	2.4
Total	37.0

The 1966 submission further emphasized the need for the construction of roads. Better roads both on reserves and leading to reserves are of vital importance to avoid isolation; to transport children to and from schools; to encourage industry to locate on reserves, and to provide Indians with access to job opportunities and markets.

Subsequent to the 1964 submission calling for comprehensive planning jointly with the Bands, the 1966 submission clearly articulated the rationale for the components of the Infrastructure program. It also called for a five-year program of expenditures for water, sewer, roads and electrification. Previous to 1966, most electrification projects were funded by the Bands and little activity and funding took place in the other service areas. Subsequent to 1966, numerous arrangements have been made with the provinces for road construction and with public utilities for the extension of electrical services.

Further impetus was given to infrastructure improvements in 1973 by a Treasury Board submission for a second five-year capital programs, from FY 1975/76 to FY 1979/80. New program components were added at this time. Up to this time, the Government had seldom funded community facilities other than Band office accommodation. The growing sense of community and culture, together with a recognition of the potential of joint endeavors, had made Indians aware that such facilities are essential. It had become evident that Bands need such facilities as community halls, recreation centers and day care centers to revitalize community life. The other new component was fire protection. Fire is a major danger in Indian communities; the death rate by fire on reserves is seven times the Canadian average.

The submission emphasized that although substantial progress had been made, further funds were necessary. The FY 1975/76 to FY 1979/80 capital program asked for approval of the following program expenditures:

Infrastructure	$ million
Water and Sanitation	81.8
Roads and Bridges	32.9
Electrification	8.1
Fire Protection	4.5
Community Facilities	78.6
Total	205.9

An important statement on the provision of housing infrastructure directions was contained in a 1977 Submission to Cabinet. One major conclusion emerging in 1977 was that sufficient funds had not yet been provided to achieve fully the needed physical improvements. This submission reiterated the original objectives for "safe, decent and sanitary housing" and related infrastructure. It added, however, a number of new developments. Among these, the inclusion of organized garbage collection is important, along with the inclusion of an "operations and maintenance" plan for protecting or at least prolonging the life of investments in infrastructure. The latter is quite important in view of the widespread lack of maintenance often resulting in the need to replace infrastructure improvements prematurely, due to rapid deterioration. Finally, the submission emphasized that the infrastructure program is closely tied in with housing need and the estimates were based on bringing up to "standard" all services to housing and to the community.

The objectives of the "housing" infrastructure program in this submission are defined to focus on: (1) the provision of Indian houses with infrastructure, meeting commonly accepted health and safety standards, and a similar level of convenience to that enjoyed in neighboring non-Indian communities or comparable geographic areas; (2) the creation of jobs and provision of training opportunites and experience in construction through the program, and (3) the facilitation of proper capital plant maintenance and operation practices after construction.

The program delivery is also to be responsive to Indian decision-making and supportive of the concept of Indian people managing their own affairs. Finally, the program should utilize and coordinate resources in all relevant federal and provincial programs. Cabinet approved the policy proposals in principle.

The following illustrates the magnitude of the 1977 request intended to satisfy the objective of a "decent, safe and sanitary house" for all Indian families in a six-year time frame.

Infrastructure	$ million
Roads and Drainage	61.1
Water Supply and Sewage Disposal	226.8
Electrification	27.5
Fire Protection Facilities	8.6
Total	324.0
Housing Infrastructure	93.4
O & M	68.9

A five-year Capital Program for FY 79/80 to FY 83/84 was approved in principle by Treasury Board in November, 1978. Fifty six million dollars are proposed to be spent on infrastructure items in FY 79/80 out of the total $137 million allocated for capital works (including schools, housing and other capital works).

To sum up, the Infrastructure program began in 1964 when attention was called to the poor physical condition of the built environment on Indian reserves. Community planning was recommended to start the preparation for upgrading services to housing units (water, sewer, electricity) and to community needs (roads, bridges). Through three five-year capital programs (66-70; 75-80; 80-84), the program was expanded to include community halls, recreation centers, garbage disposal, fire protection and other related community facilities.

Since the inception of the infrastructure program, a substantial amount of investment has taken place in improving the housing stock and providing community facilities on reserves. Recent estimates, however, draw attention to the still formidable shortage of services caused by return migration to reserves, new family formation, replacement of dilapidated and lost housing units and improvement of the existing housing stock.

Problems, Issues and Contextual Factors

The cost of infrastructure is tied to the layout and location of communities. Since many Indian communities are of a low density layout and are in remote locations, costs for servicing can be quite high. This is a complex issue in at least two senses:

- Indian culture favors low density development, and, therefore, infrastructure distribution systems may be costlier than in compact developments, and

- with the recent emphasis on local decision-making, Band Councils would probably opt for a spread-out development pattern. For both these reasons the infrastructure program may be more costly on reserves than similarly situated developments in the vicinity.

In addition to the capital cost of installing services, the operation and maintenance of facilities have surfaced as problems in the context of premature physical deterioration resulting from lack of operation and maintenance funds and practices. There has been a lack of operation and maintenance funds historically, a situation which has changed only recently. Coupled with the lack of funds has been the lack of technical skills within Bands to operate and maintain physical facilities. In many cases, the latter has been the reason for premature replacement of capital works. Perhaps a greater emphasis on O and M compared to capital funds may be in order---a question of priorities is at issue here.

The argument has also been advanced that a greater sense of Band involvement in all phases of decision-making--from planning to construction to O and M--would help with prolonging the life of capital works. This, in turn, would mean a gradual development of training Band members for undertaking responsibility for capital works management.

It has also been pointed out that sufficient funds have not been committed in the past to upgrade community infrastructure on reserves to acceptable standards. One obvious question is, what is an acceptable standard? Generally speaking, nationally proposed standards, such as those in the National Building Code and used by CMHC in their programs, are considered acceptable. If so, then there is a minimum amount of funding that is necessary. Thus, if we do not consider a trade-off between standards and funding, and funding is limited, then we must consider priorities; i.e., which regions, or communities should be provided with funds for which essential services. This is a very difficult issue to resolve. Should all the funding go into one region, or into one program element? In order words, since the total funding is not sufficient to bring up to acceptable standards all of the services in all communities, should funds be spent in one region or in one program area? Or, should the time period for the necessary improvements stretch out to accomplish the objective given the annual level of funding? If the latter, one should be careful that sufficient funds are available for not getting behind, for facing and increasing amount of upgrading of services.

Finally, the resources of other federal agencies such as DREE and provincial agencies involved in road subsidy and other cost-sharing arrangements should be considered. Clearly articulated coordination mechanisms have not always been established often resulting in losses in program effectiveness.

Evaluation Opportunities

The strategy for evaluating the infrastructure program should focus on providing program managers and other program participants with information for improving the future effectiveness and efficiency of the program. There is no question that the program components answer a much needed necessity. The task is to improve the program to the maximum possible extent. Some kind of performance indicators may therefore be necessary to monitor the program and examine its year-to-year performance, such as:

- number of housing units provided with essential services;

- level of service available;

- percentage of Band family units serviced;

- cost information on services per housing unit, service extensions per unit length and so forth;

- length of time required per unit extention or per housing unit served, and

- other measures of performance, including maintenance and operation unit costs.

At a level somewhat removed from direct program implementation information, one may test program benefits by examining data on a number of reserves with various levels of service vis-a-vis:

- school attendance records (arguments have been made that lack of lighting relates to school work and attendance);

- health statistics, and

- user satisfaction surveys.

Another cluster of evaluation activity could focus on delivery mechanisms and investigate the effectiveness issues in the:

- coordination of federal departmental programs (DINA, DREE, CEIC, CMCH);

- coordination of various levels of government and Bands in program implementation;

- the participation of Bands in all phases of decision-making in the delivery of the infrastructure program, and

- the relative cost of Band involvement - including training - in construction projects.

Since employment creation is an important aspect of the program, a series of questions could deal with:

- number of short-term and long-term jobs created by the program for Band members;

- the extent of training opportunities made available and utilized by Band members;

- the number and type of skills acquired by Band members;

- the variety and length of experience in various jobs made available to Band members and the utilization of such opportunities, and

- job opportunities off-reserves taken advantage by Band members as a result of participation in on-reserve infrastructure program delivery.

The infrastructure program should also be sensitive to geographical, climatic and cultural factors. Standards may vary across the country. It is crucial, therefore, that user satisfaction be ensured by the use of adequate, suitable and appropriate standards. Functional evaluations may focus on: (1) contruction standards; (2) materials used, and (3) technology applied in different regions of the country.

EDUCATION - ISSUES AND EVALUATION OPPORTUNITIES

Background

The Federal Government is authorized under the Indian Act and obligated by the treaties signed with many of Canada's native people to provide education to status Indian children. During the 1948-1951 period most Indian children attended Federal Schools. In those cases where it has not been economically feasible to provide educational facilities, Indian children have attended provincial schools in non-Indian communities under agreements with the provincial governments. In 1949, for example, only 1300 children attended provincial schools. There has been a great change since then. In 1967, over 34,000 out of 66,000 Indian children, or 52.5% were being educated in non-federal schools.

The trend, however, has changed again. Native people today prefer to educate their children close to home, on the reserve. This is particularly true for isolated reserves where the children were previously sent away to residential schools at an early age. Current Departmental policy in this regard is to respect the wishes of the native people, in so far as possible, within the constraints of the DINA budget, and without duplication of facilities.

The DINA budget for school construction is substantial. In FY 77/78, to take one example, the Estimates provided $236 million for Indian education, of which over $37 million was for capital expenditures or almost one third of the total capital budget of $127 million. Part of these funds were spent on building temporary classrooms, major repairs,

furniture and equipment purchases and payments to the provinces to defray partially the costs of schools serving both Indian and non-Indian students. The main emphasis, however, was on the construction of new schools.

In contrast to the Housing and Infrastructure programs, the educational facilities program has been fairly straightforward, at least in theory. While the former two are of more recent origin and have undergone numerous changes in policy and delivery mechanisms, the latter has a long history and is an essential component of the total education program. As such, the assumption is made implicitly that learning takes place in a classroom setting, and that the program, therefore, focuses on the provision of classroom facilities - nevertheless, residences and teacherages are also constructed.

Authorities and Policy

Because of policy, physical and economic considerations, an increasing number of Indian students were expected to attend schools off the reserves in the fifties and sixties. Many small and remote bands did not have a sufficient number of school-age children to warrant a school on the reserve at that time. Further, the relatively few students in secondary schools just could not support the construction of high schools on many reserves. For these reasons, the Treasury Board provided authority for DINA to enter into Join School Agreements with provincial governments for providing educational opportunities for Indian children, in 1963. For similar reasons, the Treasury Board provided authority for

DINA to enter into reverse Joint School Agreements for the purpose of educating non-Indian children in federal schools constructed on Indian reserves or on Crown land, in 1972.

There have been some important recent policy changes. Indian parents have expressed a desire to participate in the operation of schools which their children attend. Provincial governments have been requested to provide for Indian representation on School Boards where warranted by the number of Indian children in a school. Some provinces have already made this possible. In further developments, and what is pertinent for this paper, some Bands asked for taking over the construction of educational facilities on reserves. With the recent emphasis on local government on reserves, the Treasury Board provided authority to DINA to transfer education capital funds to Indian Band Councils for the planning, design and construction of educational facilities, in 1978. The "terms and conditions" for such transfer include:

- design and construction standards;

- space accommodation standards, and

- procedural guidelines covering project execution and financial matters.

The current policy for education facilities could be described as follows (based on NIB Policy Paper approved by DINA):

- reserve school facilities must be brought up to standards of those in outside communities;

- all unsafe, obsolete school buildings, equipment, etc., should be replaced with modern, functional units;

- reserve schools are to be the vehicle by which Indian parents gain knowledge, experience and confidence in fulfilling their obligations and responsibility in the education of their children, and

- school facilities should be available to the community for adult education and cultural activities.

And, of course, the tendency is for an increasing number of Bands to assume responsibility for construction funds, providing Band members with an opportunity for gaining employment experience and management skills.

Problems, Issues and Contextual Factors

Probably the one most important factor in any consideration of the educational facilities program is that it is a "derived demand" type of response to the implementation of education objectives. Educational objectives on curriculum and methods change over time.

Consequently, the shape and form of physical facilities could also change. The classroom solution to the desirable form of learning environment has been accepted by the DINA education program. However, the effectiveness evaluation of the program should relate more to the initial objectives than to any other standard. And these objectives could also change by region and by Band and could, theoretically, call for forms other than schools.

While a similar argument could be advanced in relation to the housing program - i.e., shelter is not necessarily a Western-styled and subdivided suburban house - it is less applicable to the infrastructure program where standards for potable water and minimum amount of lighting can be established without reference to cultural factors and locally established objectives.

The School Design and Construction Standards report prepared by the E and A Branch confirms the above notes and calls attention to the fact that depending on geographic location, climate, transportation, communication and socio-economic and cultural factors, the architectural and engineering solutions and construction methods for schools vary widely:

- in remote and isolated locations problems occur with: lack of skilled labor; a short construction season; the absence of municipal services and the use of appropriate construction methods suitable for local labor;

- in rural areas, the above problems are less severe, but mechanical and electrical contractors are still required; and

- in urban areas no real delivery problems exist; rather, there is a choice of delivery mechanisms.

Three potential issues have surfaced recently: day-labor, vs. conventional contracting; project execution (SPICE), and duplication of schools.

In keeping with the policy of providing Band members with an opportunity for employment and skill development, the tendency is to use local labor on reserves to the maximum possible extent. Major questions have focused on: the cost of using day labor vs. contracting and the identification of the kinds of situations amenable to day-labor. A recent evaluation of the cost aspects of the two delivery methods found no differences in quality between schools built by the two different methods, provided that certain conditions were met. The conditions essentially affirmed that where skilled labor and management ability exist, either method of construction is satisfactory. In other words, where the appropriate mix of skills exist, it makes no difference whether the construction crew is made up of Band members or others. Alternatively, however, one may argue that Band members should be provided with an opportunity to acquire the skills with consequent costs.

Recommendations were made in the above-mentioned project that if: (1) the characteristics of the project; (2) the potential economic impact of the project, and (3) the social characteristics of the Band in the project area warrant the use of day-labor, then higher costs are justified. In other words, a larger cost-benefit framework may provide positive results in an extended time-frame and with the consideration of community development factors. In such cases estimates higher than would be expected under a "lowest bid" situation would be justified.

A related issue area is project planning and execution. The Office of the Auditor General recently examined the school construction program of IIA, from definition of objectives through to substantiation of request, planning and estimating and execution (SPICE Report). The audit was quite critical of the program.

Finally, many Bands would like to construct schools on reserves in an attempt to further their interests in ensuring control of the education function. These attempts may run counter to existing Joint School Agreements. The Band's wishes would be respected, but where the Agreements still have a longer life, limited DINA budgets could probably be better spent on priority items other than duplicating an existing arrangement, unless it is an unsatisfactory one.

Evaluation Opportunities

The main evaluation opportunity would of necessity focus on the extent to which demand for schools is in balance with supply. Demographic information is necessary on Indian school children by age cohorts and educational achievement, i.e., how many children are eligible to enter which grade. Such information is to be contrasted to the availability of education facilities. The supply side should obviously consider standards and levels of service in terms of space and physical condition of buildings. Monitoring the demand and supply situation as well as an examination of problems in cases where forward planning is not anticipating future demand, is an important function.

Next to the monitoring activity, functional evaluation of education facilities is important especially as it relates to:

- user satisfaction, that is, the creation of environments conducive to learning (ignoring all variables except the physical ones);

- material performance in terms of adequacy, maintenance characteristics, suitability and economy;

- space standards reflecting cultural and other variables;

- means by which Joint School Agreements meet Band education objectives;

- cost indices on unit bases, and

- project execution efficiencies.

The Engineering and Architecture Branch has responsibility for developing standards and has recently initiated functional evaluations. In addition, a new Capital Management System is being put in place which will provide information on project execution useful to program and project managers.

A third evaluation area would certainly focus on delivery. There is an increasing tendency for Bands to assume responsibility for education funds, although the majority of projects are still directed by Public Works today. The alternative delivery methods could be examined by considering effectiveness measures, possibly by taking case studies. The coordination and sensitivity of participants in project delivery is an important component in such evaluations.

Last but not least, the opportunities provided to Bands for socio-economic development by the capital program could bs evaluated. Employment created, training introduced, and skills acquired could be examined as a result of the construction of educational facilities.

Clearly, the purpose of the various evaluation themes would be to provide program and project managers with information and performance indeces designed to improve the future of the program.

PROCESS AND PARTICIPANTS

IN CAPITAL MANAGEMENT

PROCESS AND PARTICIPANTS

Background

Capital works are not generally considered to be program objectives outside of make-work programs. Rather, they are usually the means to achieve something. For example, when the objective is decent and sanitary shelter the result may be a housing unit. Or, when the objective is the provision of access and a sanitary environment, the result may be roads and sewerage. The point is that instead of capital works, the shelter objective could translate into a relocation program; relocation into vacant housing units. Similarly, with access and other objectives, alternatives exist outside of capital works. In this sense, capital works should be evaluated on the extent to which they effectively achieve program objectives. It is theoretically possible that program objectives could be achieved better by other than capital projects. But, assuming that capital works are necessary and also in view of the size of IIA construction works annually, the IIA Capital Program can be considered to be a program in itself with objectives of its own. These objectives would be management oriented--how to best achieve an efficient and effective delivery of capital improvements. In addition, the Capital Program has acquired a major objective--i.e., to serve as a means of community development for Indians. In this sense, the program is concerned with the improvement of the physical environment as well as with community development.

The capital program has grown into a large and complex undertaking; over $127 million in FY 78/79 including 89 major projects. Because of the highly decentralized nature of the program--projects built all across Canada--and the numerous participants and decision points in the approval system, the program has become characterized by delays in project execution, and increased project costs. There have been numerous attempts in the past to develop and implement a capital management system, or at least, that particular component dealing with the planning and control of individual projects. Many regions have introduced, or are in the process of introducing, a streamlined capital management system. However, if the program is to maintain some consistency, especially as it relates to Treasury Board approvals, some interlocking of regional systems is necessary. For this reason, a Capital Management Committee was established at Headquarters in February, 1978, to coordinate the various activities in the capital program area.

As a first task, the Committee engaged a consultant to outline the need, function, uses and users of a Capital Management System. Based on the consultant study, the Committee began work on the elements of the System consisting of:

- program planning;

- project control;

- asset inventory;

- maintenance management; and

- evaluation strategy.

Work is proceeding on all five components.

The preparation of a Capital plan within the Indian and Inuit Affairs Program should be linked to the development of three interrelated processes:

- comprehensive community planning by Indian Bands to identify individual reserve capital requirements and appropriate development time frames;

- the identification of national priorities based on analysis of requirements and discussion with Indian leaders; and

- the development of a Regional Investment plan, which,
  given the national direction, priorizes activities and projects within the context of regional circumstances and the requirements of individual communities.

To date, the strongest of the three processes has been community planning. As a result, the capital program has been very much of bottom-up exercise.

As a further result, the implication of future operation and maintenance costs are often overlooked or not investigated until a critical point in budget allocations is reached where a Regional manager must choose between capital asset maintenance and the provision of social assistance. Current policy is to provide for some "top-down" direction for ensuring that all three processes: community, regional and national program planning, are operating effectively and in concert.

Process and Participants

The program shows great complexity in terms of process and participants:

- funding is available from a number of sources for capital works. In addition to IIA funds for specific types of physical improvements, DREE also makes funds available under certain conditions and in special circumstances. CMHC provides loans for housing and CEIC funds are also available for employment, for example, the Canada Works Program. Current policy places IIA in a coordinating role vis-a-vis funding by the Federal government. Furthermore, funds may be available from Bands and provincial governments. The latter funds would be blended with federal funds; examples are roads and schools;

- responsibility for program expenditures is placed either with government officials or with Bands, via "contributions". An increasing number of Bands assume responsibility for school construction and infrastructure improvements, and in future years we may see 50% of the Capital Funds in the "contributions" category;

- program planning is a complex, iterative process involving Bands, and specialists in education, engineering, architecture, housing and community affairs at the District and Regional levels, as well as at Headquarters and Treasury Board through the program forecasting process;

- project approvals occur at all levels, including the Bands, and the District, Regional and Headquarters levels of DINA and in some cases by Treasury Board. Approvals are related to the various IIA organizational levels via size of expenditures;

- project execution involves a blend of IIA officials--and consultants and contractors who could include Band members. The intent is to use Band members increasingly for management and construction as a means of community development; and

- operation and maintenance of capital works is also increasigly being undertaken by Indians Bands.

The capital improvement programming process should take place in a structured context involving:

- program direction developed at Headquarters. Basic priorities are usually set nationally, which are considered by the Regions in developing their annual and multi-year programs of physical improvement;

- data base on Bands, including: historical and demographic data; asset inventory and financial data. The obvious purpose of the data base is to support community planning which, in turn, provides the basis for the capital projects, i.e., project substantiation;

- standards for materials to be used, space occupied by different functions and levels of service provided by the various physical improvements; and

- a time frame for the annual cycle of capital programming, ultimately ending up in the Estimates.

The above four contextual factors are the result of work by all levels of IIA and the Bands. The development of the data base clearly calls for local level work, preferably by using Band members. Overall program direction is primarily a Headquarters function while standards prepared by Headquarters undergo functional evaluations in the field involving HQ, regional and local officials, as well as users, i.e.,: the Bands.

In sum, responsibility for projects is largely decentralized. Based on identification of needs, proposals are developed by Bands and at the District level, and are aggregated into program requests at the Regional and National levels. Total national budgets are set in Ottawa and are allocated to Regions, to Districts and thence to specific projects. The process through which this is accomplished varies from region to region. Headquarters provides support and policy guidance, but direct management responsibility is not taken. Upon completion, the project can be operated and maintained either by the Band or the Department through the operation and maintenance budget.

Since the process view of the Capital Program is really no more than a different cut, or perspective on program elements, the evaluation opportunities mentioned under the program descriptions would apply here as well. For example, program delivery was mentioned previously--evaluation of delivery mechanisms would examine the roles and interrelationships of participants in program execution. Also, functional evaluation was mentioned previously--the standards could be continuously evaluated with regard to performance and user satisfaction.

MAINTENANCE

MAINTENANCE

Maintenance is, and should be an integral part of the capital program. Maintenance may extend the life of capital projects and have an influence on the size of the capital program; premature deterioration of facilities can be prevented by an appropriate amount of upkeep.

The Task Force Report on Maintenance Management as a component of the Capital Management System commented on a number of difficult areas in maintaining IIA capital assets:

- there is no clear definition of ownership of a large number of facilities; particularly housing and infrastructure;

- there is no accepted distinction between operations and maintenance in the budgeting and allocation of O&M funds;

- there are no systematic data systems on maintenance;

- the sources of funding for maintenance are in many different programs; the responsibility for maintenance is widely dispersed;

- there are no accepted objectives and levels of preservation established for maintenance, and

- the quality of current levels of maintenance is low; current efforts are directed mostly towards the emergency repairs.

The Task Force Report recommended that an IIA Maintenance Management System be developed.

The Task Force concluded that even without clear decisions or direction on the major issues there are opportunities for improving current maintenance practices by focussing on facilities for which IIA has clear responsibilities.

It is not intended here to further discuss maintenance management - the reader is referred to the Task Force Report.

EVALUABILITY ASSESSMENT

EVALUABILITY ASSESSMENT

Evaluability assessment is an attempt to determine which aspects of a program could be subject to evaluations. The first step in the process is to clarify the nature of the program, what it does, what it tries to accomplish and what the underlying rationale is. Effectiveness evaluation assumes that there are: (1) clearly articulated program components; (2) clearly specified goals or effects and (3) casual links between components and effects. For example, improved sanitation should lead to better health. So the first step in evaluability assessment is to chart the program components leading to desired effects.

The evaluability assessment charts are based on the documents reviewed and on limited discussions with HQ staff. As such, they are "first-run-models" of the programs and represent a picture of the programs from the point of view of how the programs should be performing. Consultations with program managers may modify the charts to show real life conditions.

The models start in the top row by outlining the basic program components. It was found useful to break down the programs by function; i.e.: funding capital and funding O and M and by delivery group, i.e.,: federal, Band, or provincial. It appeared that evaluations would be useful by looking at the effectiveness of program delivery by different agencies and groups especially in view of the future capital vote structure dividing capital funds into votes 10 and 15. And, of course, O and M is different from construction, hence a separate program component.

The program components produce outputs, which, in turn, attempt to achieve intermediate and subsequently, long-run objectives. The purpose is to develop a logical sequence of activities from input to ouput, achieving objectives in time. The chain from program component to long-run objectives should show causal relationships: the achievement of intermediate objectives should follow the outputs and the achievement of long-run objectives should be the consequence of achieving intermediate objectives. The other purpose is to end the chain in measurable items in order to examine whether or not the inputs--the program components-achieved the objectives. Clearly, not all objectives are measurable in numerical terms. In such cases evaluations are judgmental. The evaluability assessment technique attempts to focus on measurable objectives.

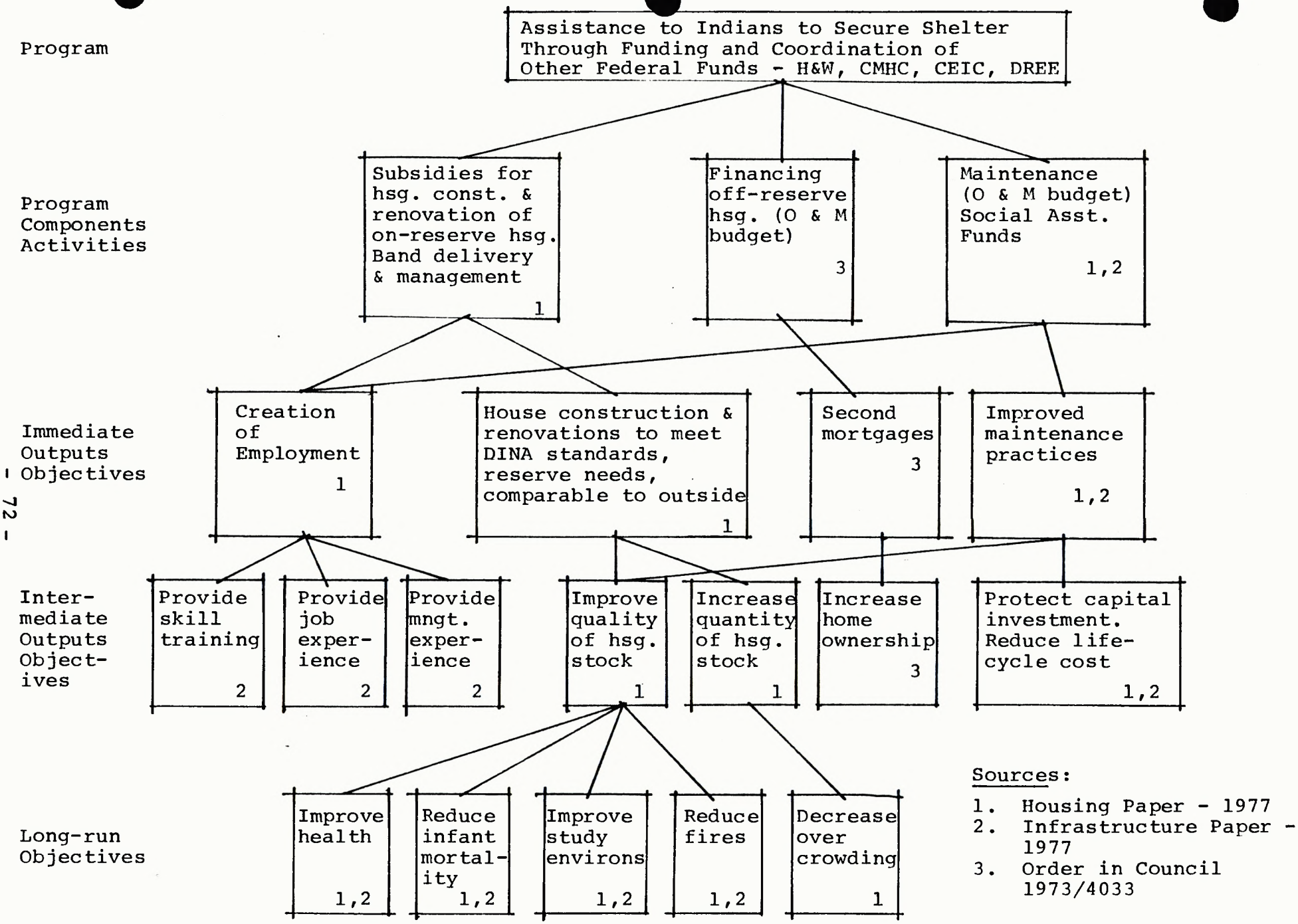
A number of similarities exist on all three charts, possibly because we have three capital programs focusing on construction and O and M, and also because the intent is to use capital works for employment creation and community development. Thus the objectives for providing job experience, skills training and management experience appear in all three programs. Similarly, emphasis is given to maintenance for reducing the premature deterioration of buildings and utilities in all three programs.

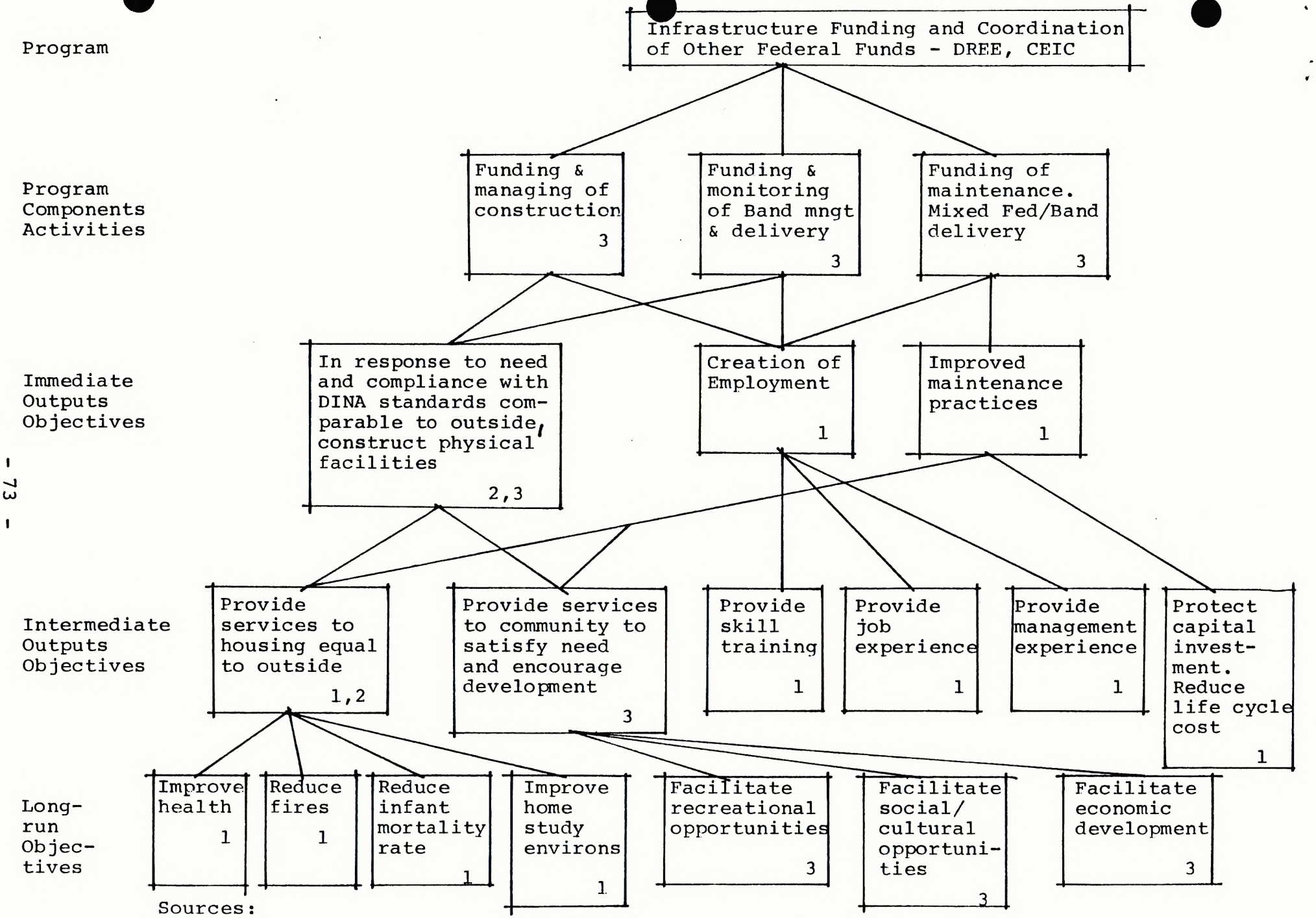
Furthermore, there is a strong relationship between the housing and infrastructure programs in terms of improved environmental conditions. This is clear in the long-run objectives for improved health, reduced fire and so forth.

Some program components do not end up in the long-run objectives row. The reason is that some program components have very specific objectives and once the immediate output is produced, the mission is accomplished. Other program components are more complex and require the achievement of short-term objectives which, in turn, will create the environment for the achievement of longer term objectives.

The sources are given for most objectives. However, in a number of cases, no articulated text was found although the purpose was clear. This was especially true with the education program. Broad mandates for education are clear in the Indian Act and TB Authorities and DINA Guidelines provide direction in specific situations. But there does not seem to be anything between generalities and specifics with the possible exception of the NIB policy statement. There has been a great deal of work done on housing since 1977 and somewhat less on infrastructure. Although much ambiguity still exists in the delivery of housing and infrastructure programs, there was a sufficient amount of articulated policy on which to model the programs.

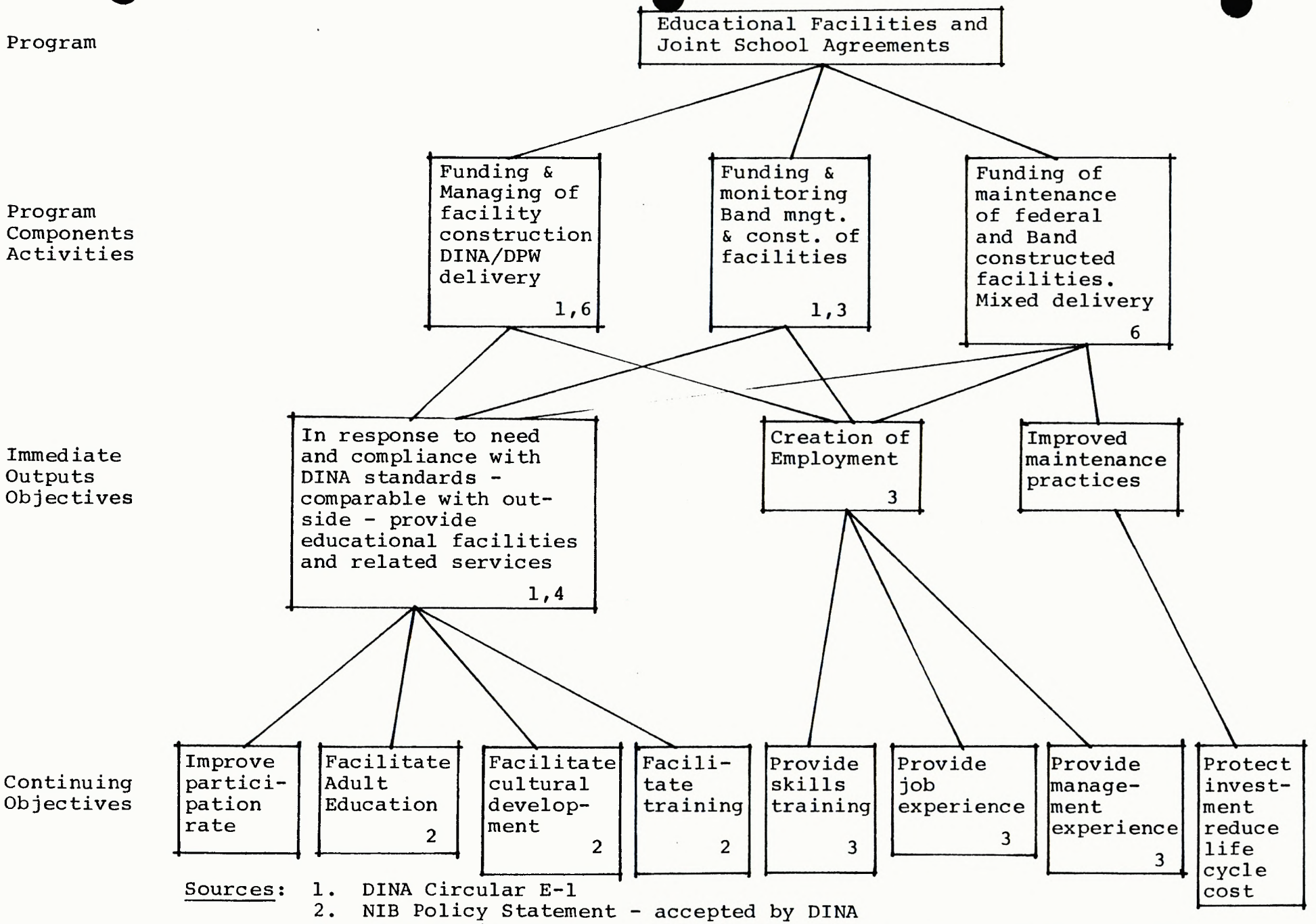
The evaluability assessment technique described above has been recently developed in government. The major difference between the more commonly experienced program development and the recently promulgated program evaluation functions is identifiable on the charts; while program development begins with objectives and ends up with program components, program evaluation is the reverse. In evaluating programs one examines the program components, and traces their impacts for assessing the extent to which program objectives are being met. While program development is prospective, evaluation is retrospective.


Program
Assistance to Indians to Secure Shelter Through Funding and Coordination of Other Federal Funds - H&W, CMHC, CEIC, DREE
Program Components Activities
Subsidies for hsg. const. & renovation of on-reserve hsg. Band delivery & management 1
Financing off-reserve hsg. (O & M budget) 3
Maintenance (O & M budget) Social Asst. Funds 1,2
Immediate Outputs Objectives
Creation of Employment 1
House construction & renovations to meet DINA standards, reserve needs, comparable to outside 1
Second mortgages 3
Improved maintenance practices 1,2
Inter-mediate Outputs Object-ives
Provide skill training 2
Provide job exper-ience 2
Provide mngt. exper-ience 2
Improve quality of hsg. stock 1
Increase quantity of hsg. stock 1
Increase home ownership 3
Protect capital investment. Reduce life-cycle cost 1,2
Long-run Objectives
Improve health 1,2
Reduce infant mortal-ity 1,2
Improve study environs 1,2
Reduce fires 1,2
Decrease over crowding 1
Sources:
1. Housing Paper - 1977
2. Infrastructure Paper - 1977
3. Order in Council 1973/4033



Sources:

1. Infrastructure Paper - 1977
2. DINA Guidelines - DRM - 10-7
3. TB Authorities 657358 - 721633 - 734715



Sources:
1. DINA Circular E-1
2. NIB Policy Statement - accepted by DINA
3. TB Authority 751608
4. DINA DRM 10-7
5. TB Authorities 601776 - 712957
6. Indian Act

APPENDIX

APPENDIX A

Capital Program

Evaluation Initiatives to Date

The following is an overview only. No priorities are implied.

1. Activity — DREE Northlands Agreement Projects.

   Evaluation Objective — To examine the Dree Northlands Agreements in Manitoba and Saskatchewan from the point of view of:

   (a) their impact in the budgetary and planning process of the Band and IEAP levels;

   (b) application of anticipated resource demands and coordinating mechanisms to the Alberta situation.

   Status — Study completed May, 1978.

2. Activity — Hydro Agreements.

   Evaluation Objective — To examine the costs and level of electrical services to Indian communities. This information will be used for renegotiation of electrical agreements for the development of required policies.

Status — Study completed April, 1979.

3. Activity — Ontario Indian Housing Council.

Evaluation Objective — To define the nature and scope of OIHC activities, and examine its effectiveness for preparation of Cabinet Document and DINA-Association negotiations re Regional Housing Councils.

Status — Study completed March, 1979.

4. Activity — Assessment of Coordinated Program Delivery: A case of the Housing Program.

Evaluation Objective — To ascertain the nature and problem existing and/or intended financial and organizational coordination of program delivery, focusing on the Housing Program.

Status — Terms of Reference discussed with Housing and Community Facilities Branch.

5. Activity — Band Management of Housing Program.

Evaluation Objective: To review the status of Indian housing program management primarily based on the data available from Ontario Region including the Ontario Indian Housing Council evaluation interview data. To assess the implication of Indian control of housing program in general.

Status: Report completed in April, 1979.

6. Activity: Capital Construction Cost Evaluation.

Evaluation Objectives: To assess the costs and benefits of constructing capital works projects by local labor arrangements as compared to conventional contract methods.

Status: Study completed in February, 1979.

7. Activity: Recreation Program Review.

Evaluation Objective: Develop and test performance indicators; review policy and resource commitments; determine impacts/effects of program on sample of communities and identify additional sources of recreation support for Band.

Status: Study completed, May, 1979.

APPENDIX B

TB Authorities - Capital Management

(Source: Capital Management Newsletter, February 1979)

On Reserve Housing Program authorities:

1. Subsidy Housing

(a) T.B. Minute 655934, dated 2 June 1966.

This authorized the payment of grants to Band Councils or Housing Committees responsible to Band Councils, to provide housing assistance on reserves.

(b) T.B. Minute 678781, dated 25 April 1968.

This authority increased the maximum subsidy contribution of $7,000 per house (as approved on 2 June 1966) to $7,000 per house plus freight or transportation of building materials.

(c) T.B. Minute 686922, dated 13 March 1969.

This T.B. Minute increased the maximum subsidy from $7,000 per house plus freight to $8,500 per house plus freight. Also, approval was given for an increase in the maximum subsidy on April 1st of each succeeding year up to a maximum of $10,000. (This $10,000 maximum came into effect on April 1, 1973).

(d) T.B. Minute 753252, dated 18 October 1977.

This authority increased the maximum subsidy allowable for the construction of houses on reserves from $10,000 to $12,000 per house plus freight.

2. On Reserve Housing (Loans to Individuals)

(a) OC-PC 1967-1725, dated 12 September 1967.

This Order-in-Council approved terms and conditions for the guarantee by the Minister of Indian Affairs and Northern Development of loans made to Indians for the construction of houses on Indian Reserves by CMHC pursuant to Section 40A of the National Housing Act of 1954.

(b) OC-PC 1976-1358, dated 8 June 1976.

This Order-in-Council amended OC-PC 1967-1725 of September 12, 1967 by deleting the reference to Section 40A of the National Housing Act of 1954 and referring to applications for loans under the National Housing Act.

3. Band Administered Housing Programs

(a) OC-PC 1973-2936, dated 4 October 1973.

This Order-in-Council approved the terms and conditions for the guarantee by the Minister of Indian Affairs and Northern Development of loans made for public housing on Indian reserves by CMHC.

(b) OC-PC 1974-1641, dated 23 July 1974.

The Order-in-Council amended OC-PC 1973-2936 by redefining "applicant" to include non-profit corporations and co-operatives, all the members of which are Indians on Indian reserves.

Infrastructure Capital Program Authorities

(a) T.B. Minute 657358, dated 13 July 1966, concerning authority to make capital contributions to Indian Bands in respect to construction of roads, water and sewage systems, which was amended through T.B. Minute 688642, dated 1 May 1969, to extend the previous authority to include equipment related to the construction, maintenance, and protection of housing, roads, water and sewage systems.

(b) T.B. Minute 721633, dated 20 December 1973, approved in principle the Indian and Inuit Affairs Program five year capital plan from 1975-76 to 1979-80.

(c) T.B. Minute No. 734715 of April 10, 1975 accepted the concept of subsidizing community centre facilities under certain conditions and according to a proposed cost-sharing formula through guidelines, criteria and limits for funding. The infrastructure program was approved in principle by Cabinet on 8 August 1977. The Appropriation Act also applies.

Education Capital Program Authorities

(a) T.B. Minute No. 601776, March 9, 1963, provides authority for the Department to enter into Joint School Agreements.

(b) T.B. Minute No. 712957, August 9, 1972, provides authority to enter into reverse Joint School Agreements for the purpose of educating non-Indian children in federal schools constructed on Indian reserves or on Crown land.

(c) T.B. Minute No. 751608, January 30, 1978, provides approval of the
terms and conditions for the transfer of education capital funds to Indian Band Councils for the planning, design and construction of educational facilities. The "Design and Construction Standards" and the "Space Accommodation Standards" were also approved under the authority of this Minute.

The Assistant Deputy Minister has, by letter dated March 30, 1978, initially authorized the Directors General to approve minor projects not exceeding $100,000 through the accountable contributions to Band programs.

(d) Letter of Understanding, Treasury Board Secretariat, June 22, 1978, provides an agreement in principle by Treasury Board that Treasury Board submissions be consistent with the Unit Cost Indices for school buildings.

APPENDIX C

Documents Reviewed

General

1. 1980-81 Program Forecast: Program Options/Program Strategy and Procedural Guidelines.

2. TB Minute No. 758461. November 21, 1978. Attached is five-year Capital Program for FY 79/80 to FY 83/84.

3. TB Minute No. 721633. August 16, 1973.
   Attached is five-year Capital Program for FY 75/76 to FY 79/80.

4. Five-year Capital Program for FY 65/66 to FY 69/70. Cabinet Approval in principle, January, 1966.

5. The Indian Act. Office Consolidation, 1978.

6. Capital Management Newsletter.

Infrastructure Program

1. Draft Infrastructure Working Paper. March 6, 1979. Policy Branch.

2. Draft Preliminary Report. Present and Future Infrastructure Needs. Community Services Branch, January, 1979.

3. Draft Interim Report. Methodology Used in Estimating Costs and Requirements for Indian Housing Infrastructure. E and A Branch. November, 1978.

4. Proposed Infrastructure Program for Indians and Reserves. August, 1977.
Approved in principle by Cabinet.

5. TB Authorities (mentioned in appendix).

6. DINA Guidelines DRM 10-7 Infrastructure.

Housing Program

1. Final Report. Housing Needs Analysis. A. Kuhn. Corporate Policy Group.
October, 1978.

2. IBI Group Study. Housing Policy Refinement. Indians on Reserves. August, 1978.

3. Discussion Paper. Proposed Housing Policy for Indians on Reserves. August, 1977.

4. Statistical Report. Listing of Information Related to the Housing Needs Analysis--1977. Program Support Group.

5. Indian Housing Policy and Program. A Technical Report Prepared by the Joint Working Group of the National Indian Brotherhood and the Department of Indian and Northern Affairs. May, 1976.

6. Various DINA Standards and Guidelines. DRM-10-7. Housing.

7. TB Authorities (mentioned in appendix).

8. Memo from H. Rogers to P. Gillespie. Review of IBI Report.
Policy Branch
August 21, 1978.

9. DINA. Indian Off-Reserve Housing Review. January, 1977.
No author mentioned.

10. Henderson, William: Land Tenure in Indian Reserves. DINA, 1978.

Education Facilities

1. Indian Control of Indian Education. Policy paper by NIB presented to Minister of Indian Affairs and Northern Development, 1973.

2. SPICE Interim Report. Project Management, Education Activity, DINA, by Auditor General. February, 1978.

3. DINA Program Circular E-1.

4. Various DINA Standards and Guidelines. DRM-10-7. Education.

5. Quasar Systems Ltd. Identification of Information Systems Requirements for Elementary/Secondary Indian Education, March, 1979.

6. TB Authorities (mentioned in text and appendix).

7. DINA, E and A Branch. Analysis and Evaluation Report. Kehewin School Project. 1976.

Process and Participants

1. Dewis, B.F. Project Control System, Indian and Inuit Affairs Program, Draft, DINA, February, 1979. E and A Branch.

2. DINA, Departmental Asset Inventory System. Phase I Report. December, 1977. E and A Branch.

3. DINA. Task Force Report on the Application of Maintenance Management in the Indian and Inuit Affairs Program, November, 1978. E and A Branch.

4. Berigan, G. Departmental Maintenance Management System. Phase I - System Concept. DINA, June, 1978. E and A Branch.

5. Berigan, G.P. Functional Review and Evaluation. August, 1978. E and A Branch.

6. IBI Group. Project Control System, Final Report, DINA, March, 1978.

7. Indian and Inuit Affairs Program, Capital Management System. Program Planning, Mimeo, April, 1979. Program Support Group.

8. DINA, Ontario Region. Capital Projects Planning and Management Manual,
No date.

9. Treasury Board Circular No. 1978-46, Approval of Capital Projects, November 6, 1978.

10. Choquette, A. Regional E and A Resource Guidelines for Estimating Manpower Requirements Indian and Inuit Program. DINA, February, 1979. Also: Test of Resource Standards in I and I Program.

11. TB Circulars for Capital Management and Contributions 1978-48 and 1977-50.

12. DINA, Engineering and Architecture Technical Resources Inventory All Programs, June, 1979. EA-HQ-78-28.

13. DINA, The Engineering and Architectural Function in Regions and Districts. February 5, 1979. EA-HQ-78-167.