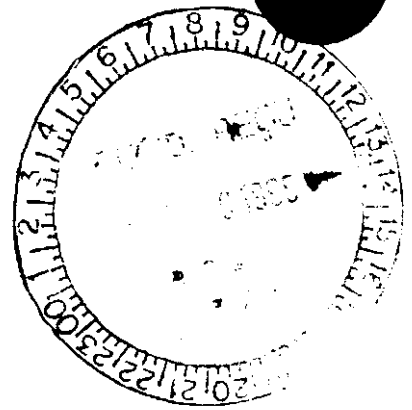


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Resource Rents from Aboriginal Lands in Canada

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1. Introduction

The concept of economic rent has assumed a central role in discussions of aboriginal rights in Canada. Large-scale resource development have generated significant economic benefits, but also enormous social and environmental costs. Economic rent is defined as the net social benefit accruing from the exploitation of natural resources and, therefore, the potential income accruing to the owner of the land. The distribution of rents between private firms, governments and aboriginal peoples, however, has been highly unequal. In particular, aboriginal people have shared few of the benefits and borne an inordinate share of the costs.

Policy debate over economic rents in Canada has changed dramatically over the past two decades. During the 1970s, rising natural resources prices, and the large profits earned by oil, mining, forestry and hydro-electric projects, focused attention on the distribution of benefits from resource development. Kierans (1973) charged that the Crown, as landowner, failed to receive its fair share of the income generated from the exploitation of natural resources. He chastised the Government of Manitoba for failing to assess and levy appropriate taxes on foreign-owned mining companies operating in the province. Approximately 30 per cent of the final selling price of minerals extracted in Manitoba constituted an abnormally-high profits that neither the provincial nor federal governments were capturing through taxation; as a result, income, that should have accrued to the Crown, was appropriated by private capital in the form of excess or "super profits."¹ He later concluded that: "Canadian resources policy has been a failure because we have given away the rents from our own resources, given them away in exchange for minuscule taxes and the wages of exploitation" (Kierans, 1987: xiv).

¹Private capital, in turn, argued that high profit rates were required to justify the risk involved in natural resource projects (cf. Hedlin-Menzies, 1974).

As the Crown asserted its claim to resource rents, their distribution among governments became a central aspect of federal-provincial relations (Scott, 1976; Courchene and Melvin, 1980). The Canadian government--through corporate income and export taxes--and the provinces--via licensing, stumpage and royalty fees--captured a share of the surplus. The Canadian Department of Energy, Mines and Resources framed the issue as follows:

- i) industry needs adequate cash flow to undertake its investments;
- ii) industry needs reasonable profit expectations, commensurate with risk to undertake these investments;
- iii) the provinces, as owners of the resources require their share of the economic rent; and
- iv) the federal government needs to protect its tax base if the . . . industry is to contribute to the financing of federal economic programs. (Canada, EMR, 1979: 1)

Eventually another voice emerged, that questioned who was rightfully entitled to share in resource revenues. When the Berger Commission convened hearings into the appropriateness of a natural gas pipeline in the Mackenzie Valley, the Dene and Metis asserted their ownership of the land (Berger, 1977). Just as Kierans had perceived Canada's relationship with the foreign-owned mining companies as a colonial one, Watkins (1979) depicted the Dene nation as "the colony within." The issue was redefined, therefore, not in terms of the income lost by provincial or federal governments, but by aboriginal nations who had never ceded title to the land. And the income involved was substantial; for instance, Jelliss (1975) estimated that mining projects in the North West Territories on land claimed by the Dene generated roughly \$300 million in economic rents between 1970 and 1974. The logic of this argument was subsequently extended to other areas where comprehensive land claims existed. Amid the dispute between Newfoundland and Quebec over the surplus generated from the

Churchill Falls Hydro-Electric project, the Innu argued that they had never ceded title to land in the Ungava Peninsula. One estimate placed the economic rent from Churchill Falls Hydro-Electric Corporation at over \$3 billion between 1976 and 1980 (Grant, 1982).

X An additional concern arose in the 1980s, when an emphasis upon sustainable development drew attention to the environmental costs of large-scale resource exploitation. Longstanding aboriginal concerns about the ecological damage--created by flooding for hydro-electricity generation, by clearing-cutting forestry practices, and by open-pit mining--gained greater currency. For aboriginal peoples and environmentalists, the issue was redefined once again: at stake was not only the lost revenues but the environmental and social costs incurred.

Economic rent estimates have thus played an important role in recasting the debate over aboriginal rights to land and fundamentally altered perceptions of aboriginal peoples. The frequent portrayal of aboriginal peoples as recipients of government largesse was suddenly reversed in favour of the historical injustices reflected in the magnitude of resource revenues generated from aboriginal lands. Economic rent estimates emphasize the degree to which aboriginal peoples have not shared in the benefits of resource development.

Despite the importance of this result, it is necessary to underscore the limited application of the concept of economic rents. Three issues are rarely addressed. First, measures of economic rent have generally failed to properly reflect aboriginal valuations of land: the benefits have been measured in narrow, monetary terms appropriate to non-aboriginal, private enterprises and governments; and the immense social costs for aboriginal economies have been neglected. The result is both a socially inefficient allocation of resources and significant inequities. Second, the focus on the distribution of rents has not addressed the issue of who should make decisions over the pace and

pattern of resource development. Even if aboriginal peoples are allowed to share in resource revenues, their capacity to determine their own economic priorities may be undermined by a lack of control over investment decisions. And third, research has largely been historical; from a forward-looking perspective, how might the benefits from resource exploitation be used to generate self-sufficient and sustainable aboriginal economies?

This paper addresses these three issues--a proper measurement of both the benefits and costs of resource development, aboriginal self-determination over economic development, and the potential of revenue sharing for self-sufficient, sustainable aboriginal economies--by examining the literature on economic rents from aboriginal lands. Section 2 provides a brief summary of the theory of economic rent, techniques of measurement and its application to policy. Sections 3, 4, 5 and 6 consider four case studies: a) hydro-electric projects in Northern Manitoba; b) military use of land in the Ungava Peninsula; c) oil and gas development in Alberta; and d) resource development in the Province of Saskatchewan. Finally, Section 7 highlights the conclusions drawn in the case studies and considers the implications for aboriginal self-determination.

2. The Concept and Measurement of Economic Rent

2.1 Defining Economic Rent

The concept of economic rent has a longstanding place in economic theory. Classical economists identified three factors of production--capital, labour and land (including its natural resources)--used in any economic activity. Labour is paid a wage, owners of capital received interest or profit, and landowners received rent. Under competitive market conditions, the return paid to labour and capital will be just sufficient to attract them into use: the wage rate or profit/interest rate ensures that the supply of labour or capital respectively, will be forthcoming. In contrast, the return paid to land is a residual category: the difference between total revenue and total labour and capital costs defines the landowner's income or, rent.

X Economic rent results from the exploitation of natural resources because of the scarcity of the resource, or because existing deposits differ in terms of accessibility or cost of development. Unlike the supply of labour or capital--which increases with the price offered for its services--land is an "original and inexhaustible gift of nature." Since land is relatively fixed in supply and cannot be easily augmented in response to a higher price, an increase in demand will bid up the value of land since no additional competitive supply is forthcoming. As a result, rents or "super-returns" may accrue to a scarce resource over and above ~~the~~ the return necessary to attract it into use.

X Consider a simple example, illustrated in Figures 2.1 and 2.2, of a hypothetical mining industry. Suppose four firms extract ores from different deposits. Mine A, with the lowest costs of production (including a normal return to invested capital) will be the first to be exploited, and Mine D, the high cost producer, will be the last brought into operation. If the price of the mineral is set at P_1 , Mine D will not be exploited since

costs exceed revenue and Mine C breaks even (or earn a normal rate of return). Mines A and B, however, generate economic rents or "super-returns" on invested capital since the price exceeds the average cost of production (represented by area R_1). If demand increases and the price rises to P_2 , Mine D will be brought into production and earn a normal return, while Mines A, B and C will yield economic rents (areas R_1 and R_2). Economic rent, therefore, is a "residual" category in the sense that return to land depends upon the level of final demand.

The economic rent associated with a natural resource project, therefore, can be defined as the total revenue accruing to the investment in excess of all costs of production. Costs of production include both the private expenditures--operating expenses and an appropriate return on current and fixed assets--and social costs not borne by the firm undertaking the investment. The Canadian Department of Energy, Mines and Resources offers the following working definition:

Production . . . must furnish the industry with sufficient earnings to reimburse unsuccessful exploration expenditures and cover all costs of the producing operations, including depreciation, . . . operating expenses, overhead, transportation costs and an adequate return on risk capital. The earnings should also cover environmental costs which should be "internalized" like other operating costs. Revenues in excess of this amount are defined for the purposes of this report as "economic rent." (Canada, Department of Energy, Mines and Resources, 1973)

Figure 2.1

**Economic Rent in a
Hypothetical Mining Industry**

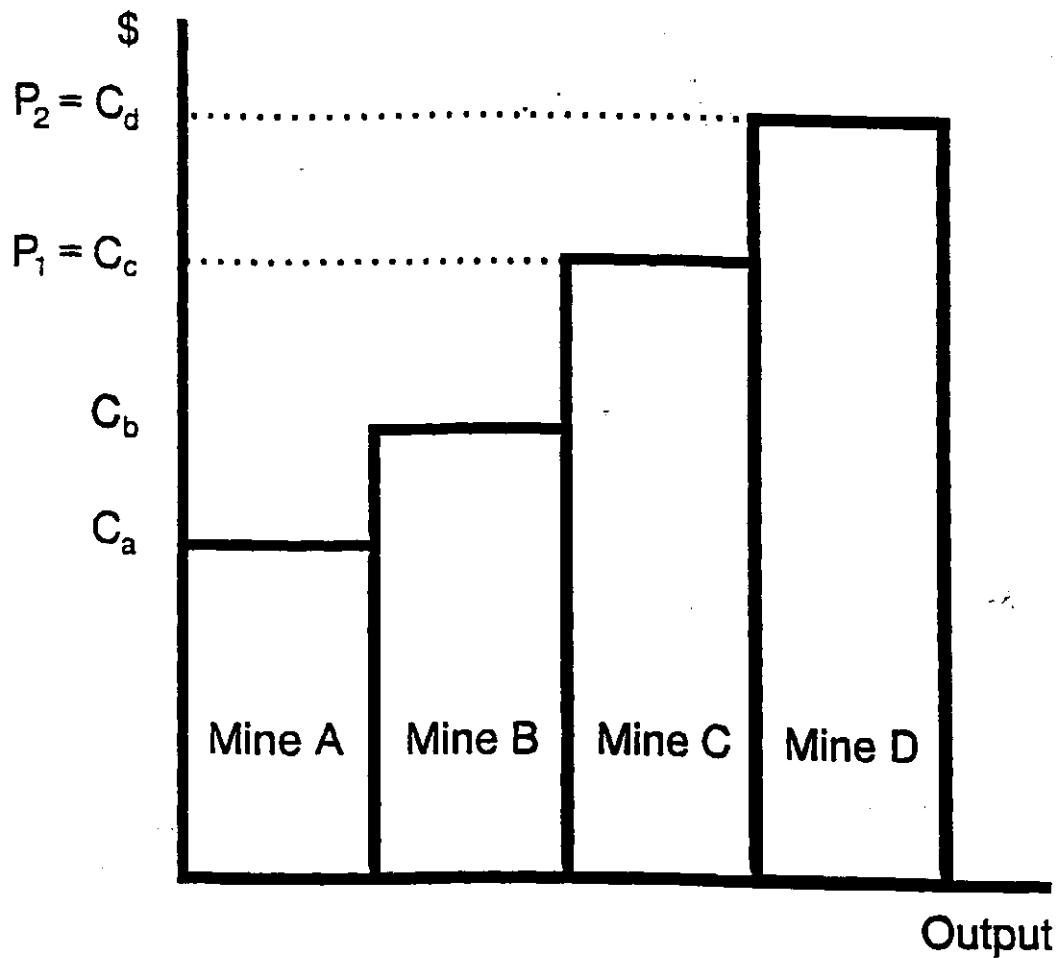
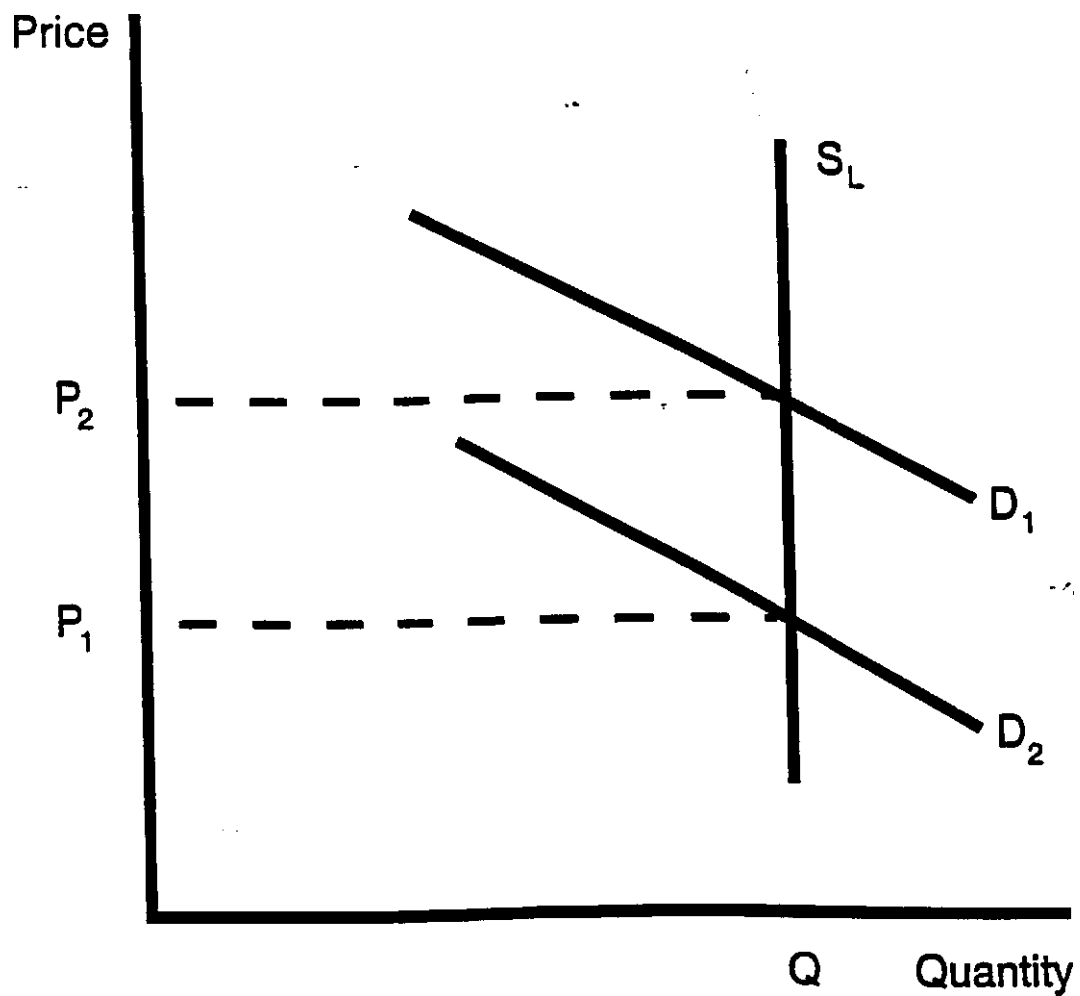


Figure 2.2

Demand-Determined Price of Land



2.2 Private Benefits and Costs

The first step in rent estimates is to determine the net private return (NPR), or "gross rents." The net return to a private enterprise is the excess of its gross revenue over its total before-tax costs. Included in these costs are depreciation on capital stock, depletion of the stock of minerals based upon their actual cost of development, and an appropriate rate of return on invested capital. The net private return (NPR_t) accruing in a single year (t), therefore, can be defined as:

$$NPR_t = GR_t - OC_t - WO_t - EX_t - K_t r$$

where,

GR_t = annual gross revenue at the point of production;

OC_t = annual non-capital operating costs, including administration and production expenses;

WO_t = depreciation costs written off in year t ;

EX_t = exploration and development costs written off in year t to reflect depletion allowances;

K_t = the value of invested capital at the beginning of year t ;

r = the required rate of return on invested capital, after taxes and royalties.

Most of these categories can be directly identified in a company's financial reports: gross revenue, operating expenses, depreciation costs, and exploration/development costs are typically isolated in a corporation's income statement. An appropriate definition of invested capital, however, is more difficult to obtain. Generally, the real costs of a project do not include payments to the owner of the mineral rights except in the case where the land or resources have an alternative use.

For instance, the mining industry often includes the entire value of its depletable assets (or known reserves which it owns) as capital; furthermore, the value of these reserves are often calculated so as to include all future profits rather than reflecting their cost of development. Moreover, it is necessary to discern what share of the depletable assets should be considered a part of capital and what share should be adjudged to be a part of land. It is generally conceded that the total cost of exploration and development should be defined as a capital cost.

2.3 Social Benefits and Costs

Traditional economic rent estimates have been criticized for limiting the analysis to the net private returns, while failing to consider the total social benefits and costs. Where the enterprise is undertaken by a private entity, it is necessary to distinguish between the *private* and *social* benefits and costs. Private benefits and costs are received and incurred by the enterprise undertaking the investment; however, other social benefits and costs may occur. *Positive externalities* may arise where the benefits created may not accrue to the private enterprise but are captured by society in general. For instance, a mining project may create investment and job opportunities in associated industries. For this reason, governments may seek to subsidize a firm's costs, either directly through cash grants and loan guarantees or indirectly by providing the infrastructure to the project, to ensure the viability of a project that promises to generate wide-ranging social benefits.

Alternatively, there may be *negative externalities* associated with an economic undertaking. A steel mill may create pollution with the costs being borne by nearby residents; an offshore oil well may threaten the fishing industry; forestry projects may destroy the recreational value of land or be detrimental to hunting and tourism. In these instances, a proper measurement of the net benefits to an investment must reflect the

environmental and other social costs not incurred by the private enterprise. Frequently, non-private or "other" social costs have been ignored: they are difficult to quantify, and are often borne by individuals without an effective voice in the decision-making process.

Appropriate rent estimates, therefore, must include both the private and "non-private" benefits and costs. Accordingly, the economic rents (R_t) associated with a natural resource project in a given year (t) can be defined as:

$$R_t = (NPR_t) + SB_t - SC_t$$

where

R_t = economic rent in year t ;

NPR_t = gross revenue accruing to the enterprise in year t ;

SB_t = other social benefits accruing in year t ;

SC_t = other social costs accruing in year t .

2.4 The Distribution of Economic Rents and Alternative Fiscal Regimes

If economic rents define the *potential* income accruing to the landowner, the *actual* income received depends upon the fiscal regime in place to capture rents. Since the rents generated by an investment project exceed the return necessary to attract capital into use, they may be taxed by a fiscal authority or the owner of the resource without causing the operating firm to significantly alter its level of current production. For this reason, economic rent is an important indicator of the potential fiscal benefits which could accrue to the owner of sub-surface rights. It is incumbent upon the landowner, however, to charge a fee--usually in the form of a royalty tax per unit of output extracted--to the enterprise undertaking the development project. Alternatively, where the government acts as landowner, rents may be captured by taxing the firm's profit.

The distribution of rents and the landowner's capacity to capture a fair return on the land, therefore, depends on an appropriate royalty/taxation regime. If the landowner fails to establish an adequate tax structure, a share of the rents will be captured by the private firm undertaking the investment project in the form of excess profits. Governments in Canada apply a variety of rent collection mechanisms, with different implications for the magnitude of total rents, and the degree of participation and risk borne by the landowner in the economic enterprise.

Licensing Fees (LIC): Private firms are usually obliged to pay a small, annual fee on Crown leases to natural resource deposits. The company, in turn, is obliged to undertaking a minimum amount of exploration or development work to retain its right to the deposit.

Competitive Bidding on Leases (BID): Where known mineral deposits exist, the landowner may sell the right to development and production to the highest bidder. The money bid by a private company should reflect the present value of expected future rents. Specifically, the amount bid on a lease in year t is equal to:

$$BID_0 = \sum_{t=0}^n R_t / (1+r)^t$$

where R_0 = the expected annual rent in year 0;

n = the last year in the time horizon; and

r = the appropriate rate of discount.

Assuming a competitive bidding process, the landowner should capture all the expected future rents.

Corporate Income Taxes and Rate-of-Return Royalties (TX): Governments may obtain a share of rents by taxing the profits of the private enterprise. If the firm realizes a rate of profit above a "normal" return on risk and invested capital, governments may tax the excess. This requires, however, full financial disclosure and the ability to adjust rates of taxation on both marginal and extremely profitable enterprises. Alternatively, rate-of-return royalties may be levied of a firm based upon the difference between actual and normal rates of profit.

Production Royalties (RY): The most common form of rent collection is to claim a share of the output. Royalty taxes may be based on the volume or value of output.

Equity Participation (EP): A alternative mechanism for capturing a share of rents is through direct participation in the producing enterprise. Owning a share of the firm entitles the landowner to a share of its profits, including rents.

Depending upon the fiscal regime employed on Crown land, therefore, the total rent is distributed in the following way:

$$R_t = LIC_t + BID_t + TX_t + RY_t + EP_t + PI_t$$

where,

LIC_t = annual licensing fees payable on Crown lands;

BID_t = annual income attributable to the capitalized rents accruing from the sale of Crown leases;

TX_t = annual corporate income tax payments.

RY_t = annual Crown royalty payments;

EP_t = annual income to Crown through equity participation;

PI_t = annual income to the private sector, including excess profit captured by the operating firm (ie., profit in excess of the required rate of return on invested capital).

The effectiveness of the Crown's rent collection system is reflected in the magnitude of rents retained by the private enterprise. To the extent that rent collection is an *ex post* form of taxation on net revenue, the landowner has the capacity to capture all excess profits without undue impact on resource allocation and, specifically, rates of investment and production.

2.5 Summary

Economic rents measure the net benefits associated with natural resource development. Measurement requires proper estimates of both the private and non-private or other social benefits and costs. The latter have largely been ignored because of the difficulty in identifying, obtaining the necessary information, and quantifying all social benefits and costs. This omission is particularly acute in instances where aboriginal peoples are concerned, since they have traditionally enjoyed few of the private benefits and borne a disproportionate share of the social costs. Finally, the ability of the landowner to capture a fair share of the rents depends upon the structuring of an appropriate fiscal regime for taxing the producing enterprise.

3. Manitoba Hydro and the Cree and Metis of Cedar Lake

Hydro-electric development in northern regions of Canada has emerged as the most significant form of natural resource exploitation facing aboriginal peoples. Government-owned electrical utilities in British Columbia, Manitoba, Quebec and Newfoundland/Labrador have undertaken large hydro projects involving the flooding of enormous tracts of land. The striking contrast between the benefits enjoyed by Canadian households and firms, primarily in the form of low-cost electric power, and the devastating social costs borne by aboriginal people, provides a graphical illustration of the political economy of natural resource development.

This section examines hydro-electric development in Northern Manitoba. We first offer estimates of the benefits of hydro-electricity generation enjoyed by electricity consumers in the Province. We then focus on one particular hydro-electric station--the Grand Rapids project on the Saskatchewan River--in order to consider the economic and social costs incurred by the Cree and Metis of Cedar Lake. Begun in 1960, the Grand Rapids project offers 28 years of experience upon which to investigate the social costs of hydro-electric development for aboriginal communities. This provides the opportunity to examine the decision-making process in which aboriginal communities have been excluded except in an *ex post* sense: they have been consulted only after the decision to proceed with a hydro project, and then only with respect to how to mitigate the economic and social costs. Finally, we contrast the realities of hydro-electricity generation with the professed goal of sustainable economic development in Northern Manitoba.

3.1 Benefits from Hydro-Electric Generation in Northern Manitoba

Manitoba Hydro began harnessing the hydro-electric potential of Northern Manitoba in 1960, when the Kelsey generating station on the Nelson River commenced supplying power to INCO's operations in Thompson.² By 1965, the Grand Rapids station on the Saskatchewan River was in production. One year later, development of the power potential of the Nelson and Churchill Rivers began, eventually to include the Kettle (1970), Jenpeg (1979), Long Spruce (1979), and Limestone (1991) generating stations; regulation of Lake Winnipeg as a water reservoir through the Jenpeg control structure (1975); and diversion of the Churchill River through the Notigi control structure (1976). The Government of Canada assisted in financing and constructing transmission facilities, the latter through the Atomic Energy of Canada.

Rapid increases in the price of oil after 1973 caused similar increases in the value of substitute energy resources. Consequently, hydro projects that were deemed economically viable in a climate of \$5-per-barrel oil prices, suddenly held the potential to be enormously profitable. Manitoba Hydro, with control over the province's vast water resources, was among the provincially-owned electrical utilities in Canada in a position to reap the windfall benefits of rising energy prices.

Estimating the magnitude and distribution of rents accruing from hydro-electric power generation is complicated by two related factors. First, publicly-owned utilities enjoy exclusive access to hydro sites without having to pay more than a nominal rental fee to the Crown as landowner. Competitive bidding for the hydro site, in contrast, would allow the Crown to capture the rents and, since the rental fee paid would be

²The Manitoba Hydro Act 1961 amalgamated the two provincial utilities, Manitoba Power Commission and Manitoba Hydro-Electric Board.

carried as an expense in the utility's financial statement, the utility would earn a normal rate of profit. Second, most utility companies are restricted from earning a return in excess of what was required to meet their operating and capital costs. This is reflected in their pricing policy, that is generally based upon average costs of production rather than the market rate of electricity. In other words, the rents are passed on to the consumer who enjoys inexpensive, below-market, electricity rates.

Since the public utility does not obtain the full market value of the power generated, rent studies rely upon comparisons of the cost of generating hydro-electric power with the cost of purchasing the same power, or of generating it using thermal or nuclear power stations. In other words, if the province had no hydraulic sites, what would be the cost of replacing the actual level of output using alternative sources? In 1979, for instance, the average cost of hydro power produced by Manitoba Hydro was 2.7 cents/kwh; the replacement cost using nuclear power was slightly higher; the price of purchased power was 3.23 cents/kwh; and utilizing coal-fired thermal electric power to generate the same output would cost 4.79 cents/kwh (expressed in 1985 \$). Despite the consensus on methodology, estimates of the direct monetary benefits from hydro-electric development in Manitoba vary considerably. Bertrand and Payne (1987) calculated that benefits in 1980 to be between \$103 and \$165 million; while Zuker and Jenkins (1984) placed the total at \$838 million (both expressed in 1985 \$). These discrepancies stems from different assumptions about the market value of power produced, the appropriate discount rate of invested capital and the scenarios regarding the relative mix of nuclear, thermal and purchased electricity used to replace hydro-electricity. The relatively-low estimates by Bertrand and Payne assume a reliance upon purchased electricity, or a predominately nuclear system of power generation in the absence of hydro-electricity, while the estimates of Zuker and Jenkins are based upon thermal generation using coal and natural gas.

● We utilize the actual price of electricity sold in Saskatchewan as a simpler, but no less reliable means, of estimating the market price of hydro-electric power produced in Manitoba. The economies and populations of Saskatchewan and Manitoba are similar in size; however, Saskatchewan relies almost exclusively on thermal generation of electricity. In the absence of hydraulic sources of hydro-electric power generation in Manitoba, therefore, a reasonable scenario is that the provincial utility would utilized a configuration of generation stations not unlike that found in Saskatchewan.

Based upon this assumption, the estimated magnitude and distribution of rents from hydro-electric generation in Manitoba are displayed in Table 3.1, and the derivation described in Appendix Table 3.5. The table refers to "gross" rents since, as we argue below, the true social costs are not reflected in these estimates. Total gross rents vary from \$372.7 million to \$932.7 million annually (expressed in 1991 \$), due primarily to changes in the level of output and market price. Over the decade, gross rents totalled \$5.8 billion. The Province received a relatively small proportion of the rents through water rental charges (\$0.2 billion); Manitoba Hydro realized a rate of return on invested social capital below the expected normal return on social capital (-\$0.7 billion); and the main beneficiary was the final consumer of electricity (\$6.4 billion). The latter includes both residential, commercial and industrial users in Manitoba and, to a small extent, extra-provincial users (or importers) of Manitoba Hydro power.

Two important observations are forthcoming from these estimates. First, the magnitude of rents are enormous, in the order of \$600 million dollars per year. To place this in perspective, annual gross rents from hydro-electricity consistently exceed the size of the provincial government's annual deficit. Second, most of the benefits accrue to Manitoba, and particularly residential, commercial and industrial users of electricity in Winnipeg enjoy among the lowest costs in North America. In other words, the rents generated by Manitoba Hydro are used to subsidize private consumption. This has been

a deliberate economic development strategy in the Province; as Manitoba Hydro argues: "Because of the ready availability of low-cost hydro-electricity, Manitoba has been increasingly attracting the attention of energy-intensive industries whose power bills are a significant factor in production costs" (Manitoba Hydro, 1986).³

Table 3.1: Estimated Magnitude and Distribution of Gross Rents, Manitoba Hydro, 1981-1990 (1991 \$ million)				
Year	Total Gross Rent	To Province ¹	To Manitoba Hydro ²	To Consumers ³
1981	432.3	14.9	- 111.2	528.5
1982	420.2	14.1	- 107.2	513.3
1983	630.5	16.5	- 95.0	708.9
1984	687.4	16.1	- 51.8	723.0
1985	679.8	14.8	- 15.3	680.2
1986	792.6	22.5	- 4.4	774.5
1987	932.7	45.7	- 25.0	912.2
1988	533.4	30.5	- 93.9	596.8
1989	372.7	25.3	- 145.6	412.5
1990	482.3	30.5	- 87.3	509.4
Total	5,853.7	230.8	-736.6	6,359.5
Source: Appendix Table 3.5.				

³The same strategy is pursued in Québec; cf. Québec, Ministère Conseil exécutif. *L'électricité: Facteur de Développement Industriel au Québec*. (Québec, 1980).

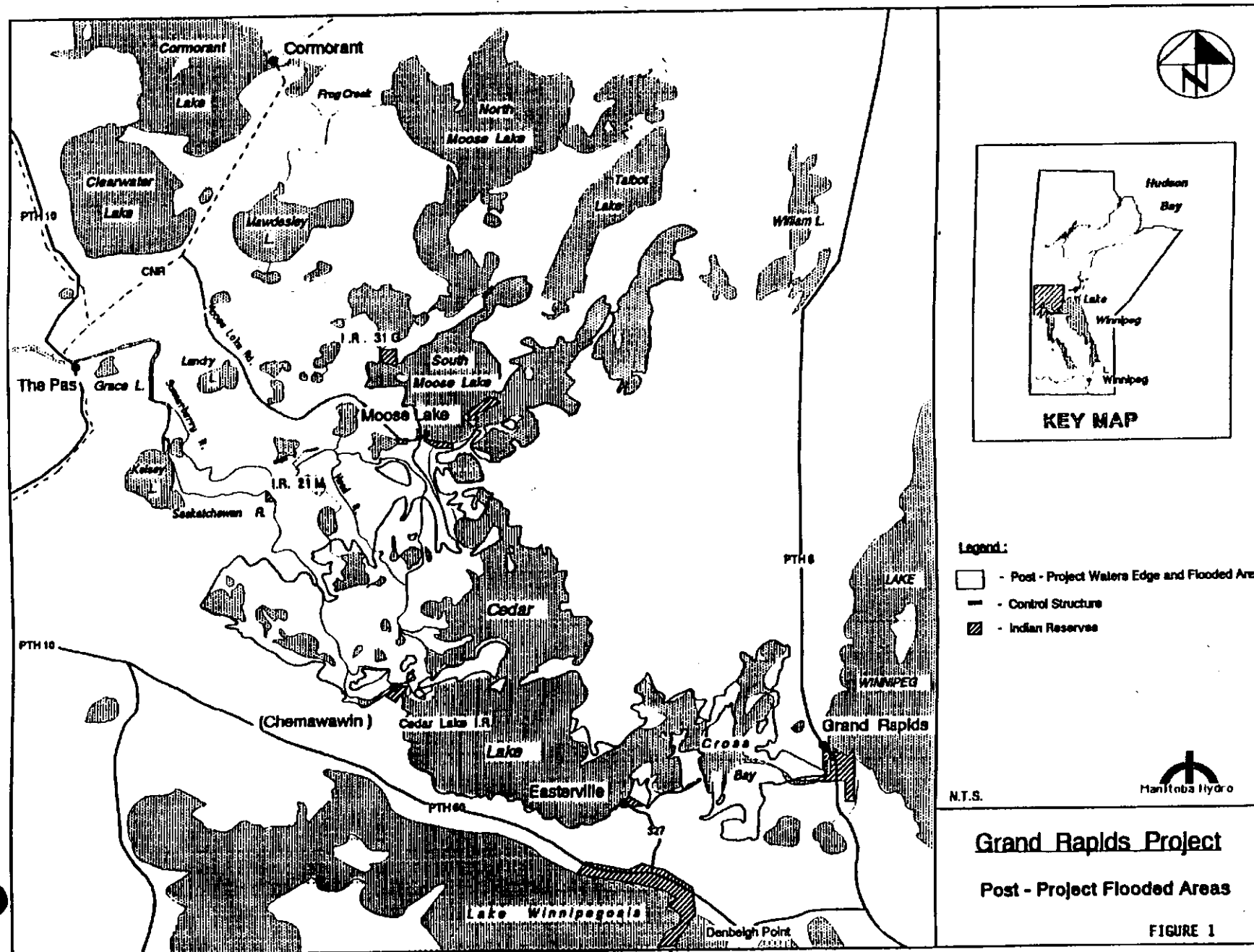
3.2 Grand Rapids Project and the Social Costs of Hydro-Electricity

In 1960, Manitoba Hydro announced its decision to proceed with the Grand Rapids Hydro-Electric Project (GRP) on the Saskatchewan River, 2.5 miles north west of Lake Winnipeg. The generating station was officially open in 1965 and reached full capacity of 472,000 kilowatts in November 1968. The water reservoir for the generating station was created by the construction of "control structures" on Cross Bay and Cedar Lake (see Figure 3.1).

The negative consequences for aboriginal economies were recognized at the outset. Five hundred square miles of land were flooded--including 11 square miles of land belonging to the Chemawawin, Moose Lake and The Pas Bands--affecting the Cree and Metis communities of Chemawawin, Moose Lake, Grand Rapids, The Pas and Cormorant. This entailed relocating the entire Metis and Cree communities at Chemawawin; relocating many Moose Lake residents; and destruction of large tracts of productive habitat in the Saskatchewan River delta. The benefits of low-cost electric power production, however, were deemed to be sufficiently large to warrant the project's construction. Because of an "open-ended" commitment by the Province to "save harmless" aboriginal communities from adverse impacts of the GRP, in 1990 Manitoba Hydro commissioned C. Osler to undertake a "post-project" evaluation of the economic, environmental and social costs.⁴ The Osler study, therefore, represents a unique attempt to consider the long-term effects of hydro-electric development: 30 years after the initial commitment to undertake the project, what were the implications for the aboriginal communities?

⁴This commitment took two forms: specific agreements included provisions to offset any general damages arising from habitat destruction and relocation; and then-Premier Roblin acknowledged to the Chemawawin community the Province's overall "responsibility to make sure that your people are not hurt by the Forebay Development but will in fact be able to earn as good a living as before, and we hope, a better living" (cited in Osler *et al*, 1990: 18).

Figure 3.1



Three aspects of the project's affects upon aboriginal communities were examined: income from renewable resources, community economic impacts, and social impacts. The Osler study found that the GRP had a modest impact upon the resource income of aboriginal communities between 1964-1989. Despite the destruction of subsistence hunting and agriculture activities, expansion of the commercial fishery resulted in a modest decline in resource income for residents of Chemawawin/Easterville. In Moose Lake, higher commercial income--primarily from fishing and forestry--more than offset the decline of in-kind income and lost trapping revenue. In contrast, the communities of Grand Rapids and Cormorant were adversely affected due to lost trapping income. Total revenue loss for all communities, over the period 1964-1989, was estimated at \$5.7 million.⁵ Remarkably, however, the Osler study projected income trends for the period 1990-2019 and concluded that there would be substantial expected benefits for the communities of Chemawawin/ Easterville and Moose Lake, sufficiently large, in fact, to generate a net benefit to all communities of \$3.7 million. Combining past and expected future effects, the study concluded that the total loss in resource income would be in the neighbourhood of \$2 million.⁶

Community economic impacts were assessed in terms of the overall earning capacity of residents. The study focused on Chemawawin/Easterville and Moose Lake residents, and found that:

the Project has neither destroyed the earning capacity of these communities nor forced any significant change in Social Assistance or welfare levels. Despite significant population growth since 1961/62, each community has retained the

⁵These estimates are expressed in 1989 constant dollars, assuming a 5 per cent rate of discount (the higher of two figures used by Osler *et al*).

⁶These figures are based upon a discount rate of 5 per cent. A typographical error results in a net benefit of \$2,030 rather than a net loss of \$2,030 (Osler *et al*, 1990: Table 6).

capacity to receive earned income on a per capita basis at least equal to what they receive prior to the Project (measured in 1989\$). In the case of Easterville, this result has been significantly influenced by the benefits which the Project created for the local commercial fishery. At Moose Lake, however, the overall impacts of the Project on the local economy have been relatively insignificant compared with the impacts from other sources, e.g., [forestry]. (58)

As Table 3.2 indicates, the average income of Easterville residents fell marginally below pre-project levels during the late 1970s, but were more than restored by the late 1980s. And residents of Moose Lake had a higher average income after the project.

Community social impacts were defined as changes in lifestyle associated with the Project's role in "accelerating the modernization process" (59). The Province's assistance in mitigating the adjustment of relocated families was deemed to be "insufficient and excessively brief," and thus it bore some responsibility "to rectify the problems associated with earlier neglect" (59). Specifically, there were delays in meeting land exchange commitments; sanitation problems at Easterville were not remedied; and there was a general failure of the Province to "sustain essential leadership, communication and development planning dialogue with the Easterville and Moose Lake communities after the flooding" (65-66).

On balance, therefore, the Osler study found that the "adverse impact" of the GRP on aboriginal communities was more apparent than real. Many specific damages had been remedied through past compensation agreements; "nevertheless, the Study Team concludes that the Province and Hydro have an outstanding obligation to demonstrate good faith, care and sensitivity sufficient to remove the adverse perceptions which currently exist" (60). It proposed a maximum level of compensation between \$14.7 and \$19.9 million to meet all outstanding commitments by Manitoba Hydro and the Province of Manitoba (67).

Table 3.2: Pre- and Post-Project Income, Cedar and Moose Lakes (1989 \$000)

	Easterville			Moose Lake		
Source of Income	1961/62	Late 70s	Late 80s	1961/62	Late 70s	Late 80s
Cash Income						
Commercial Fishing	116	589	1,007	116	256	197
Commercial Trapping	82	31	6	85	401	20
Forestry	87	50			210	675
Wage Labour	68	528	719	242	351	321
Seneca Root Harvest	13			24		
Sub-Total	366	1,198	1,732	467	1,218	1,213
Income In-Kind						
Hunting	197	71	36	172	174	46
Fishing	202	34	34	166	50	50
Agriculture	28			47		
Sub-Total	427	105	70	385	224	96
Government Transfers						
Social Assistance	102	300	676	174	764	996
Other	116	261	268	230	397	365
Sub-Total	218	561	944	404	1,161	1,361
Total Income	1,011	1,864	2,746	1,256	2,603	2,670
Income per Household	\$14,443	\$14,338	\$16,642	\$12,560	\$19,280	\$20,538
Income per Capita	\$2,939	\$2,733	\$3,357	\$2,188	\$2,799	\$2,724
Population	344	682	818	574	930	980
Source: Osler <i>et al</i> (1990).						

The Osler study can be criticized on several grounds. In placing a monetary value on the changes imposed upon the communities of Chemawawin/Easterville and Moose Lake, the fundamental transformation that occurred is treated in a casual, even cavalier manner. In the early 1960s, Chemawawin had a particularly healthy economy, chiefly relying upon lucrative trapping, hunting and fishing activities (Waldram, 1988). As Table 3.3 indicates, however, the communities of Chemawawin/Easterville and Moose Lake witnessed the virtual destruction of traditional subsistence pursuits between 1961/62 and 1989. For the residents of Chemawawin/Easterville, in-kind income from subsistence hunting and fishing declined from 42 to 3 per cent of total earnings, replaced largely through wages (+19 per cent) and government transfer payments (+12 per cent). In Moose Lake, the decline in subsistence income (27 per cent) was largely replaced by government social assistance (+19 per cent).

Table 3.3: Source of Pre- and Post-Project Income, Cedar and Moose Lakes (percentage)						
	Easterville			Moose Lake		
Source of Income	1961/62	Late 80s	Change	1961/62	Late 80s	Change
Commercial Activities	29	37	+6	18	33	+15
Wage Labour	7	26	+19	19	12	-7
Income In-Kind	42	3	-39	31	4	-27
Government Transfers	22	34	+12	32	51	+19
Total Income	100	100	0	100	100	0
Source: Calculated from Table 3.2.						

In dismissing the importance of these changes, the Osler study makes several critical assumptions. The significant portion of the decline in subsistence activities is held to reflect "consumer wants rather than compensatable Project impacts" (57). Similarly, "changes in Social Assistance levels . . . since the early 1960s reflect broad provincial trends for northern Reserves rather than specific local problems created by the Project" (58). Given the central role of land and particularly water to Cree economy and culture, it is facile to suggest that economic development in Northern Manitoba can be isolated hydro-electric projects. And to view wage income or transfer payments as adequate compensation for lost subsistence pursuits grossly misrepresents, and imposes a marked cultural bias upon, the effects of "modernization" on individual well-being. Young (1992) stresses the vital relationship between the economy, spirituality and health of the La Pas Cree.

When I was young, my community was a safe and healthy place to live. We were relatively happy and confident people because we were able to sustain ourselves from the land. The land from which we received our food supplies was also the place where we learned our traditional values of caring, sharing and respecting. The socialization process in which we learned and accepted these wonderful values was so evident in everything we did. We learned to use these tools in our work and our play.

The flooding of our land altered our culture and changed our lives forever. Our economy, as well as our physical and spiritual health, has been drastically affected. The land where my mother gathered berries and our moss was destroyed. The land where my father trapped was flooded. The lakes where my father fished are now contaminated. The hunting is less and less plentiful. . . . The Aboriginal People have paid a high price for these hydro mega-projects. Our spirituality has been weakened. Our communities were healthy, confident and economically independent. Today, many people are on welfare, and feel bitter and angry. The

dams and the electricity have not made life better. Although we are working hard to restore what we have lost, the job is difficult when our lands are continually being destroyed. (Young, 1992: 17-19)

The inherently subjective nature and the apparent magnitude of these social costs call into question the efficacy of compensation schemes conceived by parties other than those bearing the damages. Such arrangements deny aboriginal input in the process of project valuation, without which a reliable assessment of the true social and economic impacts are unlikely to be forthcoming.

3.3 *Ex Post* versus Inclusive Decision Making

As inadequate as the attempts are to place a monetary value on the social costs of hydro development, the most glaring shortcoming has been the limited access accorded aboriginal peoples to participate in decision-making process. Aboriginal residents in Northern Manitoba are portrayed as willing participants in the "modernization" process (Osler *et al*, 1988); but they have only been consulted in an *ex post* sense, or after the commitment has been made to proceed with the hydro project. Left with few realistic alternatives, aboriginal communities are left in the unenviable position of seeking to mitigate the damages.

The role of the Forebay Committee in the Grand Rapids project serves as ample illustration in this regard. Established in 1960 to act on the Province's behalf "in all matters pertaining to the consequences of the project"--including the settlement of land claims, economic compensation, land exchange, and relocation--its main thrust was to extinguish aboriginal land rights in the area to be flooded. Local community committees were formed and consulted by the Forebay Committee, and then Letters of Intent were executed with the three bands (Chemawawin, Moose Lake and The Pas) in order to gain

title to Reserve lands in exchange for Crown land, cash payments, relocation assistance and modest development commitments.⁷ Osler (1988: 13) observes that negotiations were "carried out on an informed basis by parties at arm's length who had full access to competent advisors," but there is no escaping the conclusion that an extreme inequity existed between the two parties. Without access to independent legal and technical advice, the Cedar Lake and Moose Lake communities were ill-equipped to negotiate terms and conditions appropriate to the magnitude and comprehensiveness of the expected economic and social transformation. Good faith and good intentions notwithstanding, the Forebay Committee clearly "failed to appreciate the experience and position of the local aboriginal communities. Appreciation of these factors help in comprehending the severe limitations on meaningful community consultation and participation regarding impact adjustment planning and decision making" (14).

Waldram (1983, 1988) offers a more critical evaluation of the Forebay Committee. He notes that the Committee was largely comprised of high-ranking civil servants, placed in the ambiguous position of dividing their loyalties between the government and the interests of the residents they were expected to represent. Cast in the most favourable light, lines of communication were "fragmented" with directives "relayed from the government to the Forebay Committee to the community where [they were] received by the Indian Superintendent, the Community Development Officer, or the local trader. The communication was then offered to the band council and the local flood committee, who in turn informed the people." But considerable evidence suggests a less generous interpretation. The Forebay Committee actively discourage meaningful community input: information was deliberately withheld or was translated in an incomplete fashion; adequate interpretation was not provided to "alleviate the confusion" of residents; government commitments were "vague and open-ended"; and there was a general reluctance to recognize and address community concerns. Waldram (1988) cites the

⁷The communities at Grand Rapids were treated in parallel fashion.

● selection process as "the most controversial of the Chemawawin events" and charges that provincial authorities actively encouraged the selection of the site on the grounds of "cost effectiveness." Although the Province was cognizant of the inhospitable nature of the site prior to relocation, it purposely withheld this information from the band. Actions of this nature underscore the pronounced asymmetries in the negotiation process.

Nor did the Forebay Committee have the authority or foresight to undertake any extensive community development initiatives. Immediately following the execution of Letters of Intent, provincial authorities concluded that the resource base could not sustain the affected communities and, therefore, it encouraged "a substantial out-migration from both the Cedar Lake and Moose Lake." (Osler, 22) The Committee's inability to respond effectively to the rapid changes imposed upon aboriginal communities is extensively documented (see Waldram, 1980). Afterwards, responsibility for ongoing economic and social development was transferred to the Grand Rapids Economic Development Committee, and the Community Development Service of the Manitoba Department of Welfare.

The Grand Rapids experience provided an important lesson for the subsequent North Flood Agreement (NFA) governing the Lake Winnipeg Regulation and the Churchill River Diversion project. The NFA provides a framework for aboriginal groups to obtain compensation for any adverse effects on hunting, trapping and fishing (Article 19); and also has a developmental dimension, including the preferential treatment of local labour ((Articles 18.5 and 21) and aboriginal input into community-based planning (Article 16). This represents a significant modification in policy and should not be discounted; however, it fails to redress the fundamental shortcoming of excluding aboriginal participation until after the decision to proceed with hydro-electric development has been taken. Far from constituting an inclusive policy environment, the experience of the Forebay Committee is a testament to the unenviable consequences that befall aboriginal communities when excluded from "serious" policy deliberation.

This approach stands in marked contrast to the recommendations of the Commission for Sustainable Development in Northern Manitoba. Established by the Manitoba Government in 1991, the Commission directly addressed the economic circumstances of aboriginal people, who represent over 50 per cent of the population of Northern Manitoba.⁸ It defined as the economic objective:

to maintain and enhance the quality of life for northerners . . . "Quality of life" goes far beyond wage jobs and cash incomes. It includes the fruits of all on-going non-paid production activities, such as subsistence harvesting, household work, and community volunteer work. It also reflects the current status of people and communities in the North with respect to health and well-being, culture, education and training, freedom and security, community infrastructure and services, self-esteem and control over decision-making. (Manitoba, 1993: 15)

The Commission emphasizes that "sustainable economic development requires meaningful involvement of local people in the decisions that affect them" (Manitoba, 1993: 17). The status quo--where "key decisions affecting northern development occur in board rooms, offices and legislatures outside of the region"--is unacceptable (41-45). Expansion of industrial activities in the north directly compete for the renewable resource base:

All Northern Manitoba communities share the same resource base. This is a reality that is usually overlooked when industrial and/or economic development

⁸In 1991, there were 35,910 people living on reserves, and 16,000 "off-reserve" aboriginal peoples. The total population of Northern Manitoba was 84,000. On-reserve aboriginal households have an average income that is roughly 60 per cent of the provincial and regional average (\$19,000 versus \$31,300); receive much lower employment income; and exhibit higher reliance upon government transfer payments (Harvey, 1992: ii-iv).

schemes occur, either from inside or outside the region. To fully understand this concept the region must first be seen as sharing a common system of waterways. . . . Every part of the natural resource base is dependent upon the effective management of that water regime. The water and the land of the Northern Manitoba region support the primary economic activities of Forestry, Mining, Agriculture, Trapping and Commercial Fishing as well as a large service component and a growing tourist industry. (Harvey, 1992: 66)

Among its numerous recommendations, it emphasizes the need to resolve outstanding aboriginal land claims, strengthen aboriginal subsistence activities, and develop mechanisms through which aboriginal communities have greater control over resource development (96).

The distribution of benefits and costs associated from hydro development must be evaluated in this context. The chief beneficiaries have been the residential, industrial, and commercial consumers of electricity, primarily in the city of Winnipeg, who enjoy among the lowest cost power in North America (Table 3.4) In contrast, the process of "modernization" set into motion by hydro projects, far from constituting a positive influence in the development of northern communities, often results in an increased dependency on unearned income. Much-heralded employment effects, chiefly associated with the construction phase, is of a temporary nature and quickly diminishes after project completion. As the opportunities for wage labour subside, residents, faced with the environmental consequences of the project, are often unable to return to traditional, subsistence-based forms of economic activity and are thus forced to rely upon income transfers (Waldram, 1988). Clearly, if sustainable development is to be a realistic goal, aboriginal involvement is required in the formative phase of project design, thus granting communities greater control over resource development.

**Table 3.4: Electricity Prices, Selected North American Cities,
January 1992 (U.S. cents/kwh)**

City	Residential	Commercial	Industrial
Seattle	3.73	4.34	2.56
Portland	5.30	5.33	3.95
Winnipeg	5.54	5.90	3.98
Montreal	5.77	7.66	4.57
Calgary	6.23	6.72	4.72
Ottawa	6.34	6.58	5.53
Vancouver	6.92	5.61	3.98
Minneapolis	7.35	5.94	4.50
Toronto	8.42	9.25	6.86
Houston	9.32	8.79	7.02
Boston	10.30	10.80	7.40
Los Angeles	10.37	12.70	7.70
Detroit	11.17	12.66	8.43
Chicago	11.38	9.95	7.72
Mexico City	12.85	8.45	8.40
New York	13.20	13.20	10.40
Source: Energy, Mines and Resources Canada, <i>Electric Power in Canada 1991</i> , (Ottawa, 1992), 15-17.			

Appendix Table 3.5: Estimated Magnitude and Distribution of Gross Rents, Manitoba Hydro, 1981-1990
(Current \$ million)

Year	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Estimated Revenue ¹	677.6	727.4	911.2	990.4	1,023.7	1,165.6	1,323.6	1,093.8	982.2	1,146.4
Saskatchewan price (cents/kwh)	3.6	4	4.2	4.5	4.8	5.0	5.5	5.8	6.1	6.0
Energy generated	18,823	18,185	21,696	22,009	21,327	23,311	24,065	18,858	16,101	19,106
(Actual revenue)	361.8	387.6	414.7	461.7	506.4	552.4	569.7	580.3	609.5	664.1
Expenses ²										
Operating and Admin.	105.4	120.1	138.5	149.0	157.8	173.9	187.9	203.8	229.7	248.3
Depreciation	57.8	60.1	61.7	66.3	69.3	74.5	77.7	80.1	82.6	87.6
Fuel & Power Purchased	10.0	16.7	8.2	9.3	14.4	9.4	10.5	35.3	59.0	33.2
Sub-Total	173.2	196.9	208.4	224.6	241.5	257.7	276.1	319.1	371.4	369.1
Net Income	504.4	530.5	702.8	765.8	782.2	907.8	1,047.5	774.6	610.8	777.3
Fixed Assets in Service	2,808.9	2,891.3	2,945.4	3,030.2	3,173.2	3,314.4	3,395.8	3,496.5	3,619.8	3,748.3
Less Accumulated Depreciation	469.2	524.7	584.5	647.0	713.6	783.8	854.8	929.5	996.6	1,071.6
Other Assets	121.3	156.7	251.6	249.3	193.1	272.6	225.5	589.7	844.4	811.6
Net Assets ³	2,461.0	2,523.3	2,612.5	2,632.5	2,652.6	2,803.3	2,766.5	3,156.7	3,467.6	3,488.3
Required Return on Assets ⁴	246.1	252.3	261.2	263.2	265.3	280.3	276.6	315.7	346.87	348.8
Estimate Gross Rent ⁵	258.3	278.2	441.6	502.6	516.9	627.5	770.8	458.9	264.0	428.4
Distribution										
Province (Water Rentals) ⁶	9.0	9.3	11.6	11.8	11.3	17.9	37.6	26.2	22.9	28.9
Manitoba Hydro ⁷	-66.4	-71.0	-66.5	-37.9	-11.6	-3.5	-20.6	-80.8	-131.5	-82.7
Consumers ⁸	315.8	339.8	496.5	528.7	517.3	613.1	753.9	513.5	372.7	482.3

Notes to Appendix Table 3.5:

1. Revenue is estimated by multiplying total energy generated by the average Saskatchewan price. It is implicitly assumed that the demand for electricity is perfectly inelastic.
2. Expenses exclude water rental payments to the Province, but include compensation payments under the Northern Flood Agreement and other agreements.
3. Net assets excludes fixed assets under construction.
4. Required return on net assets assumes a 10 per cent rate of return.
5. Estimated Gross Rent is (Net Income) less (Required Return on Assets).
6. Gross rents captured by the Province refer to water rental fees only; it excludes rental payments on Crown leases.
7. Gross rents lost by Manitoba Hydro reflects the underpricing of electricity and, therefore, a rate of return on invested capital below the assumed "normal" rate of 10 per cent.
8. Gross rents captured by consumers is the difference between estimated and actual revenue accruing to Manitoba Hydro. It includes residential, commercial and industrial users in Manitoba and outside of the Province.

Sources:

Canada. Energy, Mines and Resources. *Electric Power in Canada 1991*, (Ottawa, 1992).

Manitoba Hydro-Electric Board. *39th Annual Report for the Year Ended March 31, 1990*, (Winnipeg, 1990).

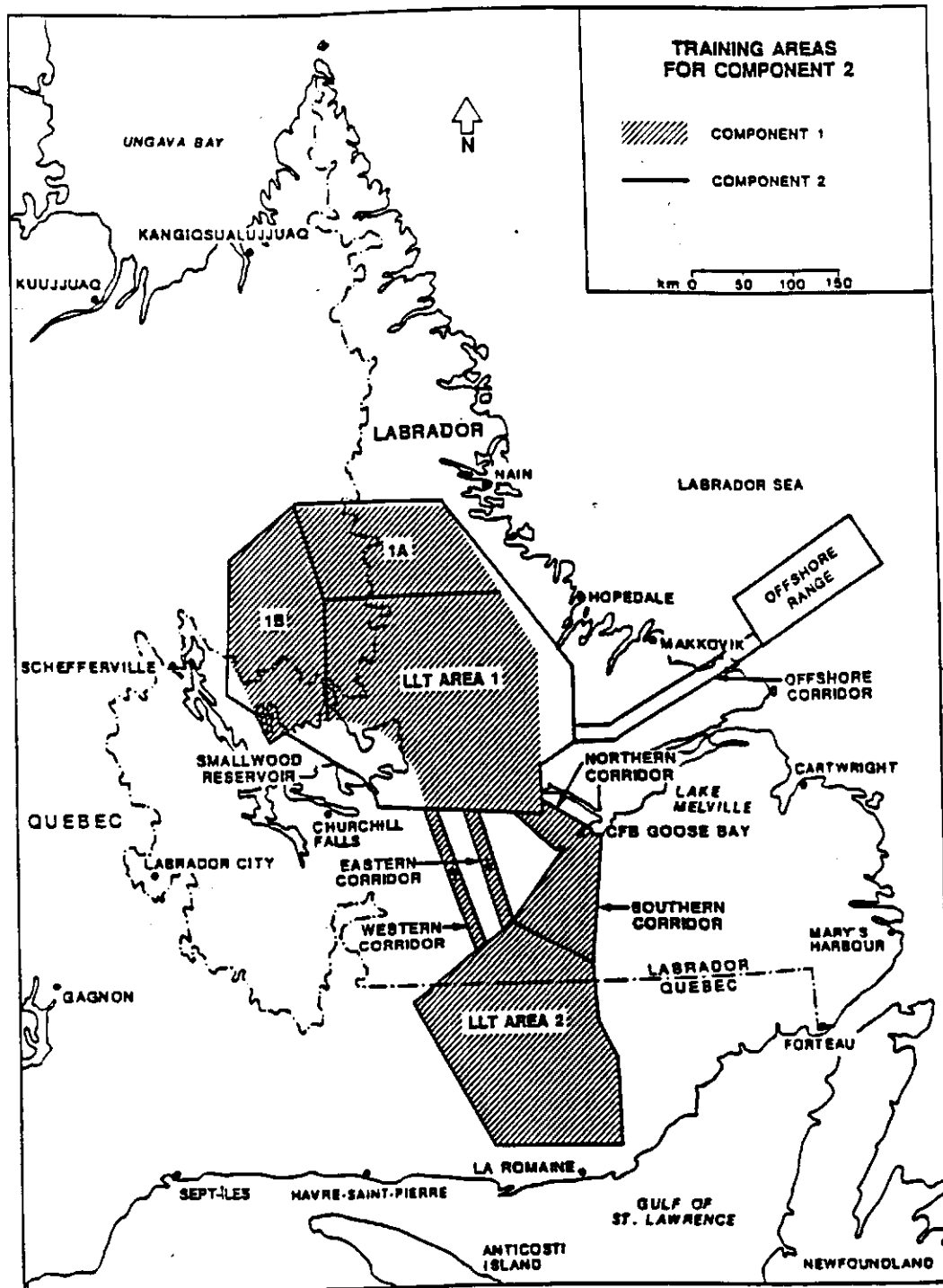
4. Militarization and the Innu of the Labrador Peninsula

Since the construction of an allied airfield at Goose Bay in 1941, the fortunes of the local settler community of Happy Valley/Goose Bay in the Labrador-Ungava Peninsula, has been heavily dependent upon defence spending. Between 1952 and 1971, the formation of NATO and the persistence of the Cold War made Goose Bay a centre for operations of the Royal Canadian and United States Air Forces (USAF) and, although the USAF withdrew its administrative support in 1976, American, British, Canadian, Dutch and German airforces have maintained an important presence in Goose Bay. In 1986, pilots, flying at speeds of 450 to 500 mph and roughly 100 feet above ground, practice evasion tactics, took reconnaissance photographs, and dropped inert bombs over a practice range near the Quebec/Labrador border.

Since 1986, the benefits of military expenditures have been the subject of intense scrutiny when the Canadian Department of National Defence (DND) proposed to increase military activity at the existing base. The planned expansion had two components (See Figure 4.1). Bilateral agreements between Canada and other NATO countries--most notably the 1986 Multi-National Memorandum of Understanding (MMOU) entered into by Canada, Great Britain, West Germany, the Netherlands and the United States--provided for increased low-level flight training at the base. By 1996, the number of aircraft would rise from 42 to 119; annual sorties would grow from 10,000 to 18,000; and a second practice bombing range would be constructed (Canada, DND, 1989: ch. 3). The second component was a NATO Tactical Fighter Weapons and Training Centre (NTFWTC), designed to begin operations in the mid-1990s. By the year 2001, activities would expand to include 140 aircraft; 45,000 sorties per year; an "air combat manoeuvre range"; six inert and three live-ordnance practice bombing ranges; and an increased flying area (from 100,000 to 120,000 square kilometres). The former proposal remains in force, while NATO withdrew its support for the latter in 1990.

Figure 4.1

The Proposed NATO Tactical Fighter Weapons and Training Centre



Source: Canada, DND (1989).

The region affected by current and proposed flight training includes areas that were the subject of three outstanding Innu and Inuit comprehensive land claims. The claim of the Naskapi-Montagnais Innu Association (NMIA) was conditionally accepted for negotiations; a framework agreement with the Conseil Attikamek-Montagnais (CAM) was reached in 1988; and the claim of the Labrador Inuit Association was under negotiations. Political pressure brought to bear on the issue by aboriginal and environmental groups eventually resulted in much publicized hearings conducted by the Federal Environmental Assessment Panel (FEAP).

Evidence presented in this public forum provides an opportunity to examine the magnitude and distribution of expected rents from military activity. At first blush, treatment of a military base as a natural resource project is a questionable one; however, it bears emphasizing that the location of an airbase is a function of the unique natural characteristics of the area. Goose Bay was initially developed as a refuelling station for trans-Atlantic military flights; a military presence was maintained because of its strategic location in northern air defence; and its attractiveness as a site for low-level flight training derives from the relatively flat terrain of the surrounding area.⁹

Three issues are salient from the standpoint of economic rent analysis. First, it underscores the need to value adequately economic rents, or net social benefits. The enterprise seeking to undertake the investment was a government department, and the DND perceived the the intangible gain of greater national security to be positive. The debate over the appropriateness of the project, therefore, centred upon the non-private, or other social, benefits accruing to business firms and citizens in the immediate region. While the promised economic benefits were tangible ones--greater employment and

⁹In 1941, the RAF and USAF independently surveyed the area in search of an area to serve the Atlantic Ferry Command. Both selected the Goose Bay site because it "was ideally located for its excellent flying weather year-round; for anti-submarine operations and staging of aircraft en route to England" (DND, 1986: 3).

income--the potential costs were not easily quantified. In the second place, the distribution of costs and benefits between aboriginal and non-aboriginal peoples, were neither fully explored nor adequately measured. Third, this points out the difficulty faced by aboriginal groups when seeking to protect their social and economic well being, when they enjoy little access to the decision-making process.

4.1 Benefits from Militarization

To the Canadian government, military expenditures at Goose Bay directly enhance national security and contribute to its NATO commitments. Federal expenditures are also perceived to be a critical element to a "successful regional development strategy" in the Maritimes (Hartling, 1990: i), with defence spending singled out as "an excellent illustration of the power of government procurement as a developmental tool." The Atlantic Provinces benefit from a large share of military bases and construction contracts, amounting to over 21.5 per cent of total federal defence expenditures (ibid, 10). The Newfoundland Government has consequently made a determined effort to build upon the momentum created by federal spending, by developing Happy Valley/Goose Bay as a service centre for southern Labrador (Newfoundland, 1986). The perception of government spending is central to an evaluation of the net benefits of defence spending to a region, and no where was this better illustrated than in the debate over the efficacy of expanded military activities at Goose Bay.

The DND estimated that expanded flight training at Goose Bay would involve \$26 million in capital costs and an additional \$120 million in annual operating costs; and the X NTFWTC would entail \$305 million in capital expenditures and a further \$300 million in operating annual expenses (DND, 1989: 3-3). For the principals concerned, this spending was warranted for national and international security reasons; in other words, the expected net private return to the parties undertaking the investment was positive.

The debate thus centred on the net non-private benefits: did the advantages to the local civilian population outweigh the disadvantages?

Table 4.1 summarizes the data presented by the DND's Operational Research and Analysis Establishment in 1986.¹⁰ Current military activity was estimated to be responsible for 471 civilian jobs and over \$37 million in local income. The latter was composed of after-tax, household wages and salaries (\$26.26 million); government tax revenue (\$7.47 million); and private sector gross profits (\$4.92 million). Expanded flight training would increase civilian employment by 256 jobs, and raise regional income by \$16.83 million. The operations phase of the NTFWTC would add a further 442 civilian jobs and create an additional \$36.88 million in regional income. The economic benefits to the community, therefore, were estimated to be \$53.71 million per year. As the DND stated the case:

The employment and revenues generated in Labrador by present military activities at Goose Bay play a significant role in the strengthening of the economic base of the region. Future military activities will further develop the already strong social and economic links which already exist between the military activities at the airfield and the local community. (Canada DND, 1986: vi)

Bradfield (1989) criticizes DND economic impact forecasts on several grounds. Estimates of employment and income benefits rested precariously upon an input-output methodology that systematically overstates indirect job creation.¹¹ Moreover, the

¹⁰These estimates differ from those presented by the DND in 1989, but are of the same order of magnitude.

¹¹The use of input-output tables to forecast the indirect employment associated with an autonomous injection of expenditures requires detailed data on the inter-relationships between industries in the affect region. Input-output forecasts are vulnerable to the degree that they assume stable economic relationships between industries over the 20-year period; fixed production coefficients (or no technical change) within industries regardless of changes in output; and the

capacity of local firms to secure defence contracts is exaggerated. The DND cites federal policy giving preference to local residents and firms in hiring and procurement processes, makes no mention of international trade agreements that allow all NATO countries to bid on contracts, and receive equal treatment in the defence tendering process (DND, 1989: 6-101; Bradfield, 1990: 12). Nonetheless, there is no escaping the conclusion that expanded military activity would generate additional employment and income in the region. For a local settler economy, characterized by chronically high levels of unemployment, heavy dependence upon government transfer payments, and dominated by public sector employment, increased military spending was a attractive prospect. The DND was undoubtedly correct when it asserted that "the local [settler] community in general is very supportive of military activities at Goose Bay" (DND, 1986: 38).

absence of constraints upon a region's ability to expand supply. If any of the above assumptions do not hold, employment creation will be overstated. These potential inaccuracies were compounded by the DND's reliance upon old data (from 1979) to make forecasts for the period 1989-1990; and the need to manipulate province-level data to estimate the impact on a small region. See Bradfield (1989).

**Table 4.1: Regional Employment and Income Effects,
Current and Proposed Military Activity at Goose Bay**

Employment (person-years)	Current	Expansion	NTFWTC	Total
Direct Military	387	549	1,370	1,919
Direct Civilian	136	277	497	774
Indirect Civilian	335	450	699	1,149
Total Civilian	471	727	1,169	1,923
Grand Total	858	1,276	2,566	3,842
Income (millions of dollars)	Current	Expansion	NTFWTC	Total
Net After-Tax Wages and Salaries	25.26	36.40	56.78	93.18
Federal Tax Revenue	3.34	6.30	10.41	16.71
Provincial Tax Revenue	4.13	5.48	15.18	20.66
Private Sector Income	4.92	11.78	25.59	37.37
Total	37.65	54.48	91.36	145.84

Source: Canada, DND, ORAE Project Report 96738, Tables ES-1 and ES-2.

4.2 Costs of Militarization

In contrast to the emphasis upon the material benefits of increased military activity at Goose Bay, the social costs, largely borne by aboriginal groups, were only addressed in a superficial manner. The Canadian Environmental Assessment Panel (1990) chastised the DND's superficial treatment of the deleterious effects on the human and biophysical environment and enumerated 38 deficiencies in the DND's environmental impact study.¹² Social costs were of three types: a) expenditures for the construction of necessary infrastructure to support the base's operation; b) the instability created for a small community by the "boom and bust" nature of a large construction project; and c) the detrimental impact upon the human and biophysical environment and, particularly, on economies dependent upon the renewable resource base.

To support a larger air base and the associated population growth in the region, significant public expenditures would be required to construct and maintain the necessary roads, schools and hospitals; sewage, water and electrical utilities; police and fire services; and cultural/recreation facilities. These costs were not negligible. By 1996, the population of Happy Valley/Goose Bay was projected to increase from 7,750 to 10,550 in response to expanded flight training under the MMOU; and with the NTFWTC, population was projected to rise to 16,000 in 2001 (DND, 1989: ch. 6). The latter would imply a doubling of the local population, placing enormous pressure on existing social facilities. While the jobs created from this activity was defined as a net social benefit, the costs of this increase in social capital were ignored. The tacit assumption was that further public spending would be forthcoming to absorb the additional costs of the military base not borne by the DND; in other words, many of the expected social

¹²These included insufficient attention to the impact on the residents of Happy Valley/Goose Bay and their economic base (Deficiencies 2, 11, 15, 16, 17, 24, 30, 31, 32, 35); on the health, economy and culture of aboriginal groups (Deficiencies 1; 10, 12, 13, 14, 15, 16, 17, 22, 26, 29, 33); and on the non-human environment (Deficiencies 3, 4, 5, 9, 13, 17, 19, 20, 22, 28).

benefits would only occur if the provincial and federal governments were willing to underwrite the costs of the expanded military base. As one local resident observed, given the "closed" nature of the base economy, employment opportunities for local residents have largely occurred in Correctional Services, Social Services, Justice, and other government departments (Bartel, 1989). In short, many of the expressed benefits of military activity were costs borne by other public institutions.

Second, the construction phases at the airbase involved an irregular pattern of expenditures, rising from \$41 million (1991/92) to \$108 million (1994/95) and then declining to zero (1996/97). The DND analysis focuses on the total impact on industry production and employment, but fails to consider the pattern of economic activity over time. As a result, the extreme pressures placed upon a community at the economic and social "epi-centre." There is little consideration of the impact of a large in-migration of a transient work force; pressures on the housing stock; and the capacity of the region to meet the rapid increase in demand. For instance, it is assumed that "the single transient construction workforce will be accommodated in a work camp" (DND, 1989: 6-117) but the implications for the social fabric of the community are ignored. The experience of other isolated communities hosting an rapid increase in economic activity--such as those affected by the discovery of North Sea oil--reveals intense, local inflation as the economy is unable to adjust quickly enough to match supply to demand. The economic well-being of those residents currently employed would likely worsen: real incomes would fall due to rising inflation and greater competition for social/recreation facilities. And if adjusting to the "boom" phase is difficult, the "bust" phase entails a restructuring process with more intractable economic and social problems.

The third, and fundamental, shortcoming of the DND analysis was the failure to seriously consider the impact of low-level flight training on the renewable resource base, on the physical environment and, particularly, on aboriginal peoples. The DND identified six potentially-damaging environmental concerns: noise pollution and the

"startle effect"; aircraft exhaust; emergency fuel dumping to a maximum of 60 times per year; dispersal of chaff, or thin aluminum, to disrupt air-based radar systems; inert and live weapons dropped in designated bombing ranges; and aircraft accidents. The impact on the local environment was deemed minor with two exceptions: fuel dumping was anticipated to have an "acute, but localized" impact (DND, 1989: S26), and the affects on woodland caribou would be "moderate" (DND, 1989: S45).

For the Innu, the threat was to their physical health, economy and culture. Innu from the communities of Davis Inlet (350 people), Sheshatshit (670), St. Augustine (150), La Romaine (650), Natashquan (500), Mingan (350), Matimekush (Schefferville, 600), Kauauatshikimatch (Schefferville, 400), and Maliotenam (Sept-Iles, 2,000) are dependent upon harvesting activities in the low-level flight ranges. The majority of Innu live in hunting, trapping and fishing camps scattered throughout in the interior country during the Fall and many return in the Spring.

The most immediate impact of low-level flying for those "overflown" is noise. The DND asserted that since the safety level of 70 decibels would rarely be exceed, there would be "virtually no risk of hearing damage" and that "startle effects"--caused by a rapid increase in noise levels--and sonic booms "contribute to annoyance, but are not likely in themselves to cause any health threatening consequences" (DND, 1989: S37). But the FEAP found that the DND's research to be inadequate. Rosenberg (1991) surveyed the medical literature and concluded that: "There is sufficient evidence to show that the noise from low-level flights is harmful to human health." While the associated noise may have a minor impact on hearing, "the more important consequences appear to be stress-related physiologic effects, especially cardiovascular ones, and psychologic distress, particular in children" (Rosenberg, 1991: 869). Notably, the powerlessness of individuals subjected to aircraft noise has two important consequences: the induced physiological effects are greater *and* the more distressing effect is "the sense of having the control over their lives taken away from them" (Rosenberg, 1991: 873).

The deleterious effects of low-level flying upon Innu harvesting activities are documented in the submission of the Naskapi-Montagnais Innu Association (NMIA) to the FEAP (NMIA, 1989). Jet noise can adversely affect migratory waterfowl, birds of prey, caribou and other species. And the FEAP concurred to the extent that it found the DND's environmental impact analysis deficient in its appreciation of the overall ecosystem, or the relationship between vegetation, small mammals, nocturnal and diurnal animals, migration patterns of large game, various species of fish and human harvesting activities. Nor was consideration given to the cumulative effects of a population influx and the seasonal nature of military activities upon a renewable resource base subjected to greater competition from the settler community. Finally, the overriding issue of the relationship between these economic pursuits and the culture survival of the Innu was never addressed.

Many of the socio-cultural and physiological costs--particularly where aboriginal people are concerned--are apparently "unquantifiable;" but in the absence of a determined effort to measure the true social costs, no economic rent study is complete. In contrast, the DND concluded that: "On balance, Canada's obligations to its NATO allies and the significant economic benefits for Happy Valley-Goose Bay and Labrador suggest that the residual environmental impacts remaining after mitigation . . . do not constitute such adverse impacts on the natural or human environment as to warrant the withdrawal of CFB Goose Bay as a potential site for the NATO centre" (DND, 1989: S59). It is irresponsible to assert that the tangible, monetary benefits--however exaggerated they may be--are an adequate trade-off for the intangible social costs. And to its credit, the FEAP ruled that there was insufficient evidence that this compromise is economically justified.

4.3 The Environmental Review Process

Predictably, the local business community was generally supportive of expanded military activities. The majority of employment creation for local residents was expected to occur was in unskilled and semi-skilled construction trades, and unskilled service occupations. Given the shortage of skilled labour and the low level of formal education in the region, most high-incomes jobs would be filled by in-migration. Notably, while the DND's hiring policy would favour local residents where qualified people existed (DND, 1989: 6-101), no explicit affirmative action program was included. In contrast, construction activity on the base would expected to benefit twenty-two local contracting and six consulting firms; base operations would increase demand for local janitorial, catering and printing firms; and consumption by military staff would expand the retail sector. Local business support was organized through the Mokami Project Group.

That the benefits would accrue to the local business community of Happy Valley/Goose Bay, and the costs borne disproportionately by the Innu inflamed ethnic tensions in the region. Armitage and Wilson (1989) document the politically-charged atmosphere, with the deep cleavage created between the two groups evident in racist attacks upon the integrity of Innu culture. This was manifest in the derisive terms in which Innu health concerns were dismissed; denigration of Innu economic pursuits in favour of a portrayal of them as "Indian" welfare bums; and descriptions of the Innu as insensitive to the natural environment. Nor did the federal government play a passive role in this conflict. Newfoundland's only federal Cabinet minister expressed his support for the airbase by embracing the practice of ridiculing legitimate Innu concerns.

More consequential, however, was the virtual exclusion of the Innu from the primary decision-making process. Without avenues, the Innu were left to rely upon marshalling the support of environmental groups and to engage in "civil disobedience" to draw national and international attention to their concerns. The environmental

review process redressed this inequity to some degree, the imbalance was reflected in the allocation of federal and provincial research support for research by aboriginal and non-aboriginal groups. For instance, the Mokami Project Group received over \$600,000 in government monies to express support for the airbase, while the Innu received approximately \$200,000 in intervenor funding.

Does the environmental review process offer a sufficient mechanism for protecting aboriginal groups? Despite the eventual rejection of the NTFWTC by the FEAP, there are several legitimate concerns about the efficacy the process. In this instance, it involves one branch of government evaluating another. However "arms-length" the relationship may appear, there is no escaping the appearance, if not the reality, that the assessor's evaluation of benefits and costs is biased and not fully disinterested. Nor did the funding of intervenor groups provide balanced financial support for opposing presentations. And more fundamentally, the Innu's access to the decision-making process was restricted to an *ex post* reaction to proposed changes. Devoid of recognized land rights to the area in question, they were dependent upon the good faith of third-party intervention to prevent encroachment upon what they perceive to be their unalienated lands.

In dismissing Innu objections to low-level flying, the DND tangentially addressed a significant issue:

The Innu have been complaining for some time about noise pollution, saying that it disturbs their way of life and scares the wildlife away from their hunting grounds. The real issue here seems to be the pursuit of self determination and land claims. Natives oppose all activities which take place on, or over, what they perceive as their own legitimate land. (DND, 1986: 41)

For aboriginal peoples to have a serious voice in the decision-making process, they must be vested with sufficient property rights to exercise control over their lands. In retrospect, the Innu succeeded in postponing and eventually cancelling the NTFWTC because they engaged in civil disobedience that raised public attention and made direct NATO participation too politically charged to proceed. The decision on whether to permit expanded low-level flight training at Goose Bay, however, has yet to be rendered.

4.4 Militarization versus Sustainable Development

Since 1945, the Governments of Canada, Newfoundland and Quebec have encouraged economic growth in the Labrador-Ungava Peninsula through a series of large, natural resource projects. During the 1960s and 1970s, the iron ore deposits near Schefferville, Gagnon and Fermont were worked by national and international firms; a titanium deposit near Lake Allard has been mined by QIT-Fer et Titanium; cutting rights to large tracts of timber along the North Shore of the St. Lawrence River have been leased to various forestry companies; and the hydro-electric potential of *Mishta-shipu* (the Churchill River) has been exploited by the Churchill Falls (Labrador) Corporation Limited. The military use of land represents another facet of the same development strategy.

Much of the DND's argument rested upon the benefits of military spending for a local economy "completely dominated" by the public sector (DND, 1986: 8). In 1986, over one-third of the labour force was employed by government agencies and a large percentage of private sector jobs was dependent upon the public spending. Over five decades of military spending has failed to substantiate the assertion that "the presence of public sector as the economic motor is a real plus" (DND, 1986: 15); the underdeveloped nature of primary and secondary industries speaks to the limited integration of the defence sector in the regional economy. The economic vulnerability

of Happy Valley/Goose Bay serves as an indictment against the capacity of defence spending to create a diversified economy.

Previous studies of military spending portray a similar pattern (eg. Schneider and Patton, 1985). Linkages from military spending to the local community, derived almost exclusively from base employees' payroll, are highly skewed towards the service and retail sectors; in contrast, there are few benefits for secondary manufacturing given the inability of local firms to compete with large, national and international suppliers on contracts for military hardware. Similarly, the local employment linkages are skewed towards low-paying, unskilled jobs. Military spending does not provide a vehicle for increasing the quality of the labour pool, with few opportunities for skilled and highly-educated professional workers. And where military activity is seasonal, the region must absorb the increased costs of transfer and unemployment insurance payments.

Military spending thus has a narcotic effect: few linkages are created and this lack of economic diversification leaves the community dependent on increased military spending for growth. To the DND (1986: 15): "The stability of provided by the public sector is consequently a very important asset for a remote community." But the improvement in East-West relations dramatically challenged this assumption: in a climate marked by many obsolete military bases throughout North America, a community reliant upon defence spending is particularly vulnerable.

The Brundtland Commission on sustainable development singled out defence spending as a waste of resources that could be put to more productive use.¹³ In many ways, however, this type of economic activity is inimical to the environmental, cultural and economic interests of the Innu and other people in the region. In marked contrast, little research has been conducted into the potential for sustainable development in the

¹³United Nations, *Our Common Future: The Brundtland Report*.

Ungava-Labrador peninsula. Economic hardship in aboriginal and non-aboriginal communities has created tremendous pressures to develop the vast natural resources of the region. Integrating the environmental concerns of the Innu people with the desire of all Labrador residents for long-term sustainable economic activity is a challenge that needs to be addressed.

Daniel Ashini, former Chief of the Innu band at Sheshatshit, stated that there are acceptable alternatives to military training at Goose Bay. This potentially includes further development of the hydro-electricity generation, a pulp wood industry, and tourism ("the sleeping giant of Labrador"). Indeed, it is tourism, or more specifically wilderness tourism, that may hold the most potential for development in one of the last unspoiled regions of the globe. He established the following minimum criteria for allowing new development: a) the economic activity must be demonstrated to be environmentally and economically sustainable; and b) future development must be designed and approved with the consent of the aboriginal inhabitants of Eastern Quebec and Labrador. The Newfoundland Government has also expressed its interest in seeing an increase in mining, forestry, hydro-electric power projects and tourism in Labrador. As of this date, the Government has not invited the Innu to be party to discussions pertaining to future development since they are not presently on the federal Government's short-list for land claims negotiations. The willingness of the Innu to cooperate in the search for alternatives to continue flight training represents a unique, if not historic, opportunity.

5. Oil and Gas Development and the Cree of Hobbema, Alberta

The longest history of large-scale natural resource exploitation on aboriginal land is in the oil and gas industry. Since the major discovery at Leduc, Alberta in 1947, oil and gas development has occurred on several Indian reserves in western Canada. Royalty income received by aboriginal peoples has been substantial. Between 1979/80 and 1991/92, \$2.4 billion was deposited into band capital accounts, of which roughly \$1.8 billion was disbursed to bands. Annual income, however, has varied considerably. During the oil boom on the late 1970s, in excess of \$100 million per year was received by bands (DIAND, 1979: 33), but the collapse of oil prices in 1986, coupled with lower rates of production, brought a sharp decline in revenue. In 1991/92, over 349,000 hectares (or 885,000 acres) of oil and gas rights on reserve lands was under lease, and \$50.1 million was received in bonuses, rentals, compensation and royalty payments.

The most prominent case of oil and gas development on Indian Lands occurs on the reserves of four Cree bands--the Samson, Ermineskin, Louis Bull and Montana--near the town of Hobbema, Alberta. The "Hobbema bands" were signatories to Treaty No. 6 in 1877, and were ceded a special reserve of 5,000 acres at Pigeon Lake in 1896. Mineral rights were surrendered to the Crown under a trusteeship in 1946 and, with the 1950 discovery of oil and gas at Pigeon Lake (where the four bands collectively hold the mineral rights to one-third of the Bonnie Glen gas field), large royalty payments have been received. The experience of the Hobbema bands with the jurisdiction over oil and gas rights illustrates the potential for, and barriers to, aboriginal control over resource rents. This section examines the current administration of oil and gas rights, including the rent collection system, prevailing on "Indian Lands," shortcomings in this system, and the barriers presented for aboriginal self-government.

5.1 The Fiscal Regime Governing "Indian Lands"

The Department of Indian and Northern Affairs (INAC) exercises a fiduciary or trust responsibility over the disposition of oil and gas rights to "Indian Lands" in Canada. Under Section 18 of the Indian Act, bands seeking to sell or lease mineral rights are obliged to "surrender" title to the Crown, which is then charged with the responsibility to act on the bands' behalf. The Indian Oil and Gas Canada (IOGC), as mandated by the *Indian Oil and Gas Act* (hereafter *Act*) and *Regulations*, was formed in 1987 to fulfil the Crown's fiduciary and statutory obligations in this respect.¹⁴ The *Act* and *Regulations* provide a general framework for exploration and development, outlines terms and conditions of permits and leases, and mechanisms guaranteeing band consultation and consent. Although the INAC is responsible for all formal agreements, band councils exercise an effective veto over every stage of development.¹⁵

Oil and gas rights on Indian reserves are regulated in a fashion consistent with the rules prevailing in the Province of Alberta. Firms licensed to conduct exploratory work may acquire exploration *permits* to relatively large tracts of land in order to carry out seismographic testing and exploratory drilling. In the event that oil is discovered in commercial quantity, the firm is entitled to convert one-half of the permit area to oil and gas *leases*. Leases to the remaining permit area are then auctioned off to the highest bidder, where the terms and conditions may include cash bonuses, equity interest, and joint-venture or profit-sharing arrangements. The primary lease, usually of five-year's duration, may be renewed for successive five-year periods.

¹⁴The IOGC assumed the responsibilities previously exercised by Indian Minerals West.

¹⁵The Supreme Court holds that a fiduciary relationship exists between the Crown and First Nations in two respects: a) *Guerin*-type obligations stemming from the statutory requirement that First Nations surrender land to the Crown which then deals with land sale on their behalf; and b) *Sparrow*-type: the Crown must act in the best interest of First Nations with respect to constitutionally-entrenched aboriginal or treaty rights.

The oil lease stipulates a basic royalty paid to the Crown, in trust for the Indian bands concerned, that increases with the level of production (or "sliding-scale" royalties). Table 5.1 details the statutory basic royalty rates on oil; however, it is now common practice to negotiate specific terms for each lease, including "a reduction or an increase, or a variation in the basis of calculation of royalties payable" (*Act*, Chap. 4, Sect. 2). In addition, a secondary royalty tax is applied if oil prices rise above a certain reference point, defined as the prevailing field price in January 1974. If the actual price of oil rises by \$2.00 above the reference price, approximately 75 per cent extra revenue accrues to the landowner, and 25 per cent remains with the leaseholder.¹⁶

Table 5.1: Basic Royalty Rates on Oil Produced from Indian Reserves in Canada*				
Monthly Production (barrels)	0-500	500-1,000	1,101-5,000	5,001 +
Basic Royalty (% of output)	10%	20%	26%	40%
Note: * The <i>Regulations</i> were amended in 1981 to express royalty schedules on an equivalent metric basis. Source: Canada, <i>Indian Oil and Gas Regulations</i> , Schedule 1.				

¹⁶The following formula applies:

$$S = (T-B)[(0.75)(P-R-\$2.00) + \$1.00]$$

where

- S = the supplementary royalty;
- T = the monthly output of oil, measured in barrels;
- B = the basic royalty oil, measured in barrels;
- P = the actual selling price per barrel;
- R = the reference price, or the prevailing field price as of January 1, 1974.

The Crown, on behalf of bands, therefore, collects a share of the rents through nominal rental fees (\$0.50 per acre on permits; and \$2.00 per acre on leases); basic and secondary royalties; and the returns from cash auctions of leases. Each of these fiscal instruments has certain virtues: licensing fees paid annually lend stability to revenue; cash bonuses from auctions are received before production occurs and are responsive to variations in anticipated well output; and royalties vary directly with the actual productivity and profitability of producing wells. Moreover, the form of recent collection reflects the degree of risk that the landowner assumes in the venture. Licensing fees and the sale of leases are payments based upon the firms' expectations of future revenue; therefore, the private firm bears the risk of discovering and developing oil and gas and the landowner pays a passive role. In contrast, royalties are a claim on actual production and revenue for the sale of oil or gas; since the landowner income depends upon the actual value of output, it shares in the risk of the enterprise.

Despite these virtues, the application of this system of rent collection in Alberta--and extension on Indian Lands--has been criticized for failing to capture the full share of the landowner's revenue. First, the system of granting exploration permits to large tracts of land relies upon private firms to gather geological information. This is deemed to be an expensive means of determining the geological potential of the land: although the private firm assumes the costs and risks of exploration, if oil or gas is discovered in commercial quantity, it secures the leases, or future production rights, to one-half of the permit area. Moreover, it creates the likelihood that the landowner has comparatively less knowledge about the probable petroleum wealth of the area (Crommelin, 1975: 208-10). This asymmetry in information is to the disadvantage of the Crown when auctioning leases to private firms, for the price paid may not reflect the expected future returns from production. Competitive bidding should ensure that the price paid for the right to produce oil and gas approximates the anticipated future rental stream: firms will pay a high price to gain access to areas expected to be highly productive. However, G. C. Watkins (1980) notes that: "The efficiency of this system of rent collection depends

upon the degree of competition in the bidding process and the accuracy of predictions used to determine bids." If only one or two firms have sufficient capital resources to develop the lease area, or if collusion occurs among firms, the sale price may not reflect the true value of expected future rents.

The landowner's passive role in developing petroleum resources, therefore, may restrict its capacity to capture rents. In principle, the further downstream state participation extends (and the greater the risk it assumes)--from geological research to exploration, development, and production--the greater the ability to obtain a large portion of rents. This underscores the need for the landowner to play a more active role in the economic enterprise to ensure that fair value is received for the land. Moreover, greater participation in the enterprise cedes greater control over pace and pattern of resource development. In the context of oil and gas development on Indian Lands, the passive behaviour of the Crown may inhibit bands from acquiring greater participation and from gaining sufficient information to extract its "fair share" of rents; and it stands in marked contrast to the professed goals of encouraging greater aboriginal self-governance. This opens the question of how oil and gas rights are administered.

5.2 Administration of Oil and Gas Revenue from "Indian Lands"

The *Indian Oil and Gas Act* allows, in principle, active participation by aboriginal bands in oil and gas development, and the IOGC is mandated to further aboriginal management and control. Bankes (1983: 103) notes, however, that "[no] overall conception of native resource management is developed in the [IOG] regulations." The primary services provided by the IOGC are inventory management, lease negotiations, contract management and compliance enforcement. The Minister, via the IOGC, is thus able to make regulations and negotiate special royalty arrangements. Although IOGC officials are meticulous in securing band consent at every stage of decision-making, and

formally act in only an advisory capacity, the absence of an explicit management role for band councils implies that "consent may not always be well informed" (Bankes, 1983: 104). Thus, while aboriginal participation is possible through the negotiation of equity interests and joint ventures or "farm-out/farm-in" agreements between industry and band-owned companies, this has occurred in only exceptional cases.

In the absence of aboriginal self-management, there are many objections to the manner that the Crown has historically attended to its fiduciary responsibilities. Royalty rates, as set by the Province of Alberta, were very low until the 1970s. Then-Premier Peter Lougheed commented that:

Regrettably, the former Social Credit government made--in our view--a very serious error in judgement many years ago in 1948 when it unnecessarily agreed to insert in petroleum and natural gas leases . . . the *maximum* royalty rate which would be payable . . . The former government clearly failed to give themselves (sic) any latitude on changing market conditions, which now exist in North America, and which have resulted in substantial increased levels of Alberta production and created a significant improvement in the profit margins of Alberta producers. (cited in Richards and Pratt, 1979: 223-224)

Accordingly, royalties on Indian Lands were also inadequate. Eric Large, Chief of the Saddle Lake Band, charged that the Crown did not act in the best interest of the band:

Unfortunately, Indian Minerals West [the predecessor to IOGC] conscientiously ignored the fact that while a provincial government may reduce royalties, take less of a return on their minerals, or modify development rules in order to stimulate their economy, to generate employment, or to satisfy some other political objectives, the same provincial government at all times retained the power to tax, collect licence and other fees, thereby to offset the cost of such political objectives.

Instead of looking to our fiduciary, the federal government, to provide the monetary or other inducements required to level the playing field, Indian Minerals West has always consistently demanded that we provide the concessions required to ensure these operating companies would enjoy the same economic return on Indian lands as they may on provincial lands. (Canada, 1993, v. 18:11)

The favourable terms extended to petroleum companies in long-term leases, normally 21 years in duration, committed bands to relatively low royalty rates as oil prices and revenues increased significantly. It was not until oil prices rose dramatically during the 1970s, that bands successfully pressured to renegotiate leases of shorter duration, revisions to basic royalty rates, and the introduction of secondary royalties that increased the Crown's share of revenue with an increase in price.

The present system is acknowledged to result "in very favourable financial compensation to Indian bands for permitting exploitation of their lands" (Bankes, 1983: 107). Nonetheless, the Auditor General was critical of IOGC's monitoring of production and royalty payments. More significantly, bands have no mechanisms for recapturing rents dissipated through lower royalty rates. Where provincial and federal governments impose corporate income taxes on private oil companies, this represents a further claim on economic rents. Secondary royalty rates have greatly reduced the relative importance of corporate taxation as a form of rent collection; however, it remains a substantial form of government claims on rent that are not shared with bands.

Despite the recommendation of a 1986 task force for more aboriginal participation, little has been achieved. The Indian Resource Council (IRC) was established as a "watch-dog" agency, with the Indian Energy Corporation (IEC) created as its "business arm" with the mandate to pursue greater control of energy development. The IEC has pursued employment training and education programs; lent business expertise to bands; and has sought to encourage joint ventures, other investment

opportunities, and mobilize capital for this purpose. But the manager of the EDC has expressed frustration with its "advisory" capacity, since the IOGC remains directly responsible to the Minister.

5.3 Economic Development and the Samson Band

Aboriginal concerns are not limited to the system of rent collection on Indian Lands, but also involve bands' access to income held on their behalf by the Crown. Under the provisions of the *Indian Act*, royalty and lease revenues collected by IOGC are deposited with the Receiver General of Canada (in a Consolidated Revenue Fund) where they are held in trust for bands. INAC unilaterally fixes the rate of return, based on the rate of interest on long-term Government of Canada bond issues. Section 64 of the *Indian Act* prescribes that monies can be paid out according to Band Council Resolutions through the regional office of Indian and Inuit Affairs. The Minister can authorize up to 50 per cent of the monies in the capital account to be disbursed as per capita payments to individual band members. Alternatively, bands may apply to withdraw funds "for any other purpose that in the opinion of the Minister is for the benefit of the band." Bands must submit capital expenditure proposals for the Minister's approval, which are assessed on a case-by-case basis (Canada, 1993: 18A: 16-17).

There are two fundamental shortcomings in this approach. First, the inherent bias against long-term economic development is reflected in the fact that monies for per capita cash distributions can be released immediately, while expenditures for capital projects require a lengthy review process. INAC, therefore, tacitly encourages bands to support present consumption rather than investment in future. Second, where the directing of investment funds is concerned, the Special Committee of the House of Commons on *Indian Self-Government in Canada* observed that the INAC is "ill-equipped to function as a bank." Holding the Minister responsible for managing Indian band

monies, as if Indian peoples were incapable of doing it for themselves, is the antithesis of self-government" (Canada, 1983: ch. 7).

Problems in the current administration of oil and gas revenues is readily apparent in the experience of the Hobbema Cree. York (1990: ch. 4) is critical of the allocation of oil revenue by the payments of cash dividends on a per capita basis. The influx of wealth--reaching as much as \$3,000 per month per individual at the peak of the oil boom--into a subsistence hunting and gathering community created traumatic social upheaval, including suicide, alcoholism, and the drug abuse. Historically, there was little assistance provided in the form of individual financial planning nor long-range community economic planning. He concludes that:

The story of Hobbema is proof that money by itself cannot repair the damage that has been done to native culture for more than a century. When the flow of money is too great and too sudden, it becomes yet another threat to traditional cultural values. The shift from poverty to wealth was as wrenching as the shift onto reserves in the nineteenth century. (York, 1990: 91)

The important observation, however, is that the Hobbema bands have learned from these mistakes and, in doing so, have increased their capacity to self-administer income accruing from the oil and gas industry. This is apparent in the experience of the Samson band, the largest of the Hobbema bands, with a population of 3,716 living on reserve, and 754 off-reserve (INAC, 1993). Investment activities are largely pursued through Samson Management, Ltd. which administers a wide variety of projects, ranging a fish hatchery at Devon; a chicken feedlot at Redwater; a large, 42,000 square foot retail/commercial mall at the townsite within the Lake Louise National Park; the Peace Hills Trust financial enterprise; and several light manufacturing, service and retail operations at or near Hobbema (see Table 5.2). Similar ventures have been undertaken by the other Hobbema bands: the Louis Bull band operates a restaurant/service stations,

real estate in Red Deer and Edmonton, a golf course at Pigeon Lake, and a small company; the Montana band operates a feedlot, cattle breeding operation, real estate at Fort Saskatchewan, and a local gas bar and convenience store; and the Ermineskin band owns a strip mall and a gas station on the reserve.

The Samson Cree are the first to acknowledge that mistakes have been made in the past. In particular, a lack of coordination between investment activities--directed towards maximizing the economic return and typically off-reserve--and employment initiatives on reserve, has restricted the benefits accruing to local band members. This has prompted a restructuring of Samson Management with the objectives of redirecting a greater share of capital investment towards on-reserve programs, and of developing more managerial and technical skills.

Self-management of economic development, however, continues to be frustrated by the substantial obstacles in gaining approval by the INAC bureaucracy and its control over capital funds (Canada, 1989: 24-25). The Auditor General found that the rate of return paid on funds held on behalf of bands was below what a trust fund should produce. Accordingly, the Samson band instituted legal action in 1989, charging breach of trust. It is claiming \$575 million for losses and damages due to improper negotiations and administration of leases; an improper return on money held in trust; and the INAC's refusal to institute treaty-guaranteed programs and services. It is seeking direct control over funds in order to pursue a diversified investment strategy that would yield a higher return than that provided by the INAC.

INAC's problems in acting as an investment banker stands in sharp contrast to the expertise developed by the Samson band in this capacity. Over the past thirteen years, its Peace Hills Trust Company has grown into a diversified financial institution with over \$217 million in assets. Initially established to manage the savings of the Samson Cree Nation, it has expanded into a nationwide trust company, providing both

investment banking and retail services to other aboriginal communities. It now administers over \$214 million in the assets of other aboriginal organizations, "an indication of the confidence of the Treaty Land Entitlement Bands of Alberta, Saskatchewan, Manitoba and other provinces have in Peace Hills Trust (Peace Hills Trust, 1993: 3). Although Peace Hills Trust has relied upon much outside expertise, it is committed to training aboriginal peoples for employment in the financial services sector. It serves as an important example of the capacity of aboriginal peoples to manage their own economic affairs.

5.4 Aboriginal Self-Government of Oil and Gas Development

Oil is a non-renewable resource and thus, by definition, is not a viable basis for sustainable economic development. While gas production on Indian Lands has remained relatively constant throughout the 1980s (see Figure 5.1), oil production has declined dramatically (Figure 5.2), and the discovery of new reserves has not kept pace. The relative "age" of oil reservoirs on Indian lands is reflected in the low rate of drilling activity in comparison to other potential oil lands within Alberta's sedimentary basin. Declining rates of production of oil on "Indian lands" provides ample testimony to the need to utilize resource rents to generate more diversified, self-sufficient aboriginal economies. This leads to two important conclusions. First, an active role in the development of oil and gas reserves is essential if the landowner is to obtain a fair return, and to acquire the capacity to pursue independent initiatives. Second, resource rents must be utilized to create a more diversified economic base, in preparation for the eventuality that the non-renewable resource base is depleted.

Transfer of control over oil and gas development on aboriginal lands is no trivial matter. As the Federal Government has argued, the transfer of control and responsibility go hand in hand, and aboriginal leaders do not want to see a diminution

in the Crown's fiduciary responsibilities. Nonetheless, the Standing Committee on Energy, Mines and Resources observes that the current situation cannot be sustained:

The fundamental problem with maintaining the *status quo* is that it does not fully address anyone's concern other than that of the Crown. Putting this into a larger context of changing relationships with First Nations, maintaining the *status quo* is out of step with the stated policy of the Government of Canada to promote self-government. (23:14)

Moreover, proposed "regulatory changes, while they will serve to involve First Nations in the decision-making process to a greater degree, do not address the broader and much more complex issue of the recognition of jurisdiction nor do they deal with the transfer of effective management and control of the natural resources to the bands." (Canada, 1993, v. 23:3)

In short, the current administration of oil and gas rights is described as a "lose-lose" situation. Bands enjoy limited direct involvement in the day-to-day decision-making governing the disposal of leases, the development of oil and gas deposits, and the allocation of the resulting revenue. Barriers to active participation prevent the accumulation of aboriginal expertise to further the interest of aboriginal self-government.

Table 5.2: Economic Development Projects, Samson Cree, 1993	
Enterprise	Sector
Air-Cree-a-tion-air Cushion Vehicles	Retail Services
Buffalo Pat	Farming
Chicken Feedlot, Redwater	Farming
Eagles Nest Arts & Crafts	Retail Services
Simon James	Farming
Hobbema Cash & Carry	Retail Services
Hobbema Fireplace and Stove Centre	Retail Services
Hobbema Glass	Manufacturing
Hobbema Transport	School bussing
Johnson's Laundromat	Services
Lone Buffalo Ranch	Farming
Luke's Trucking	Transportation
Maskwachees Furnace Cleaners, Inc.	Services
Niskree Electric	Retail Services
PANEE Agri-Arena	Recreation
Peace Hills General Insurance	Financial Services
Peace Hills Trust	Financial Services
Rolling Thunder Music	Entertainment
Samson Band Recreation Centre	Recreation Services
Samson Economic Development	Management Services
Samson Fish Hatchery, Devon	Fisheries
Samson Lumber Co.	Manufacturing
Samson Mall, Lake Louise	Commercial & Retail Real Estate
J. Septic Services	Services
South Side Service	Gas Station and Coffee Shop
Source: INAC (1993).	

Figure 5.1
Gas Production on "Indian Lands"

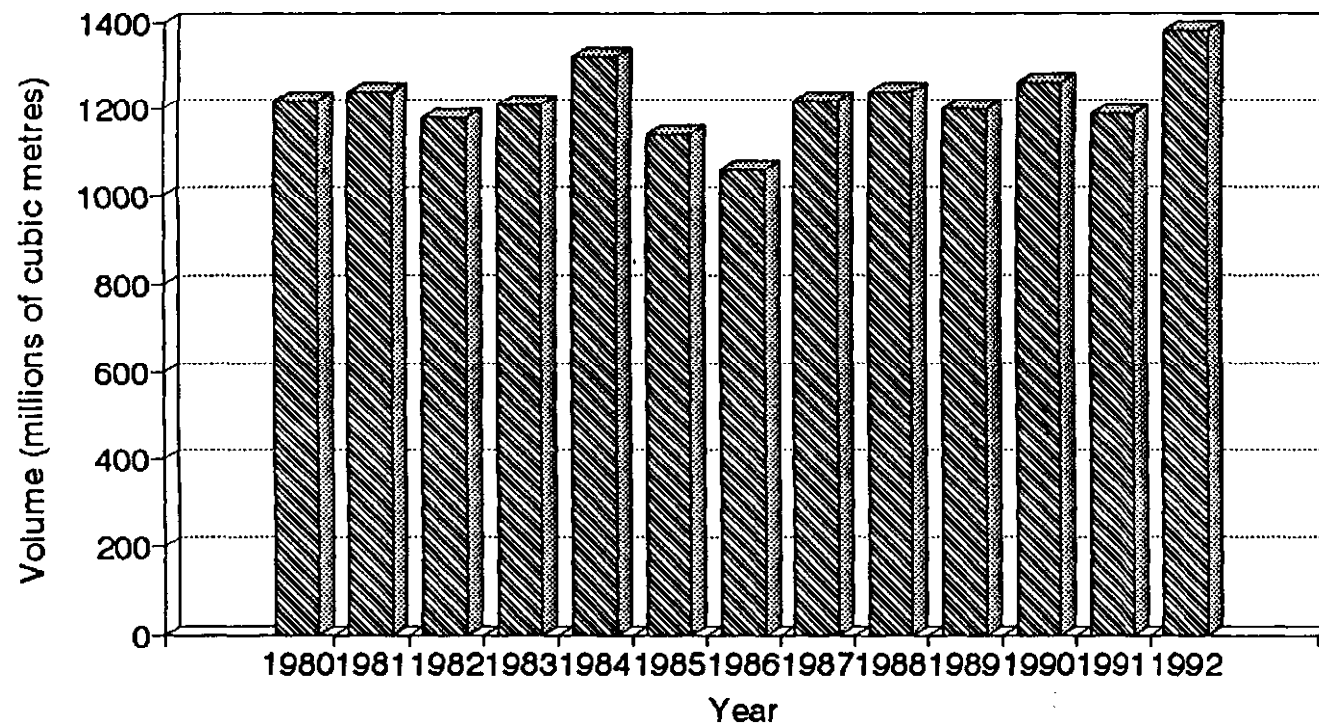


Figure 5.2
Oil Production on "Indian Lands"

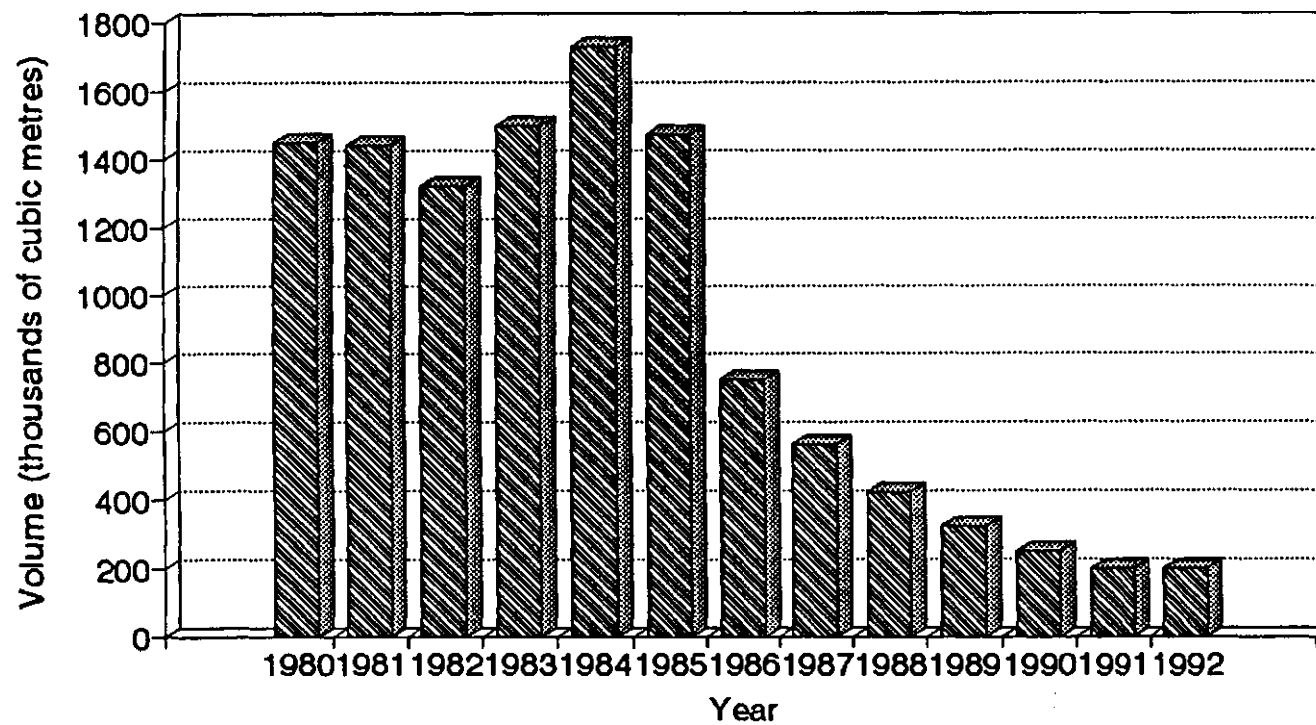
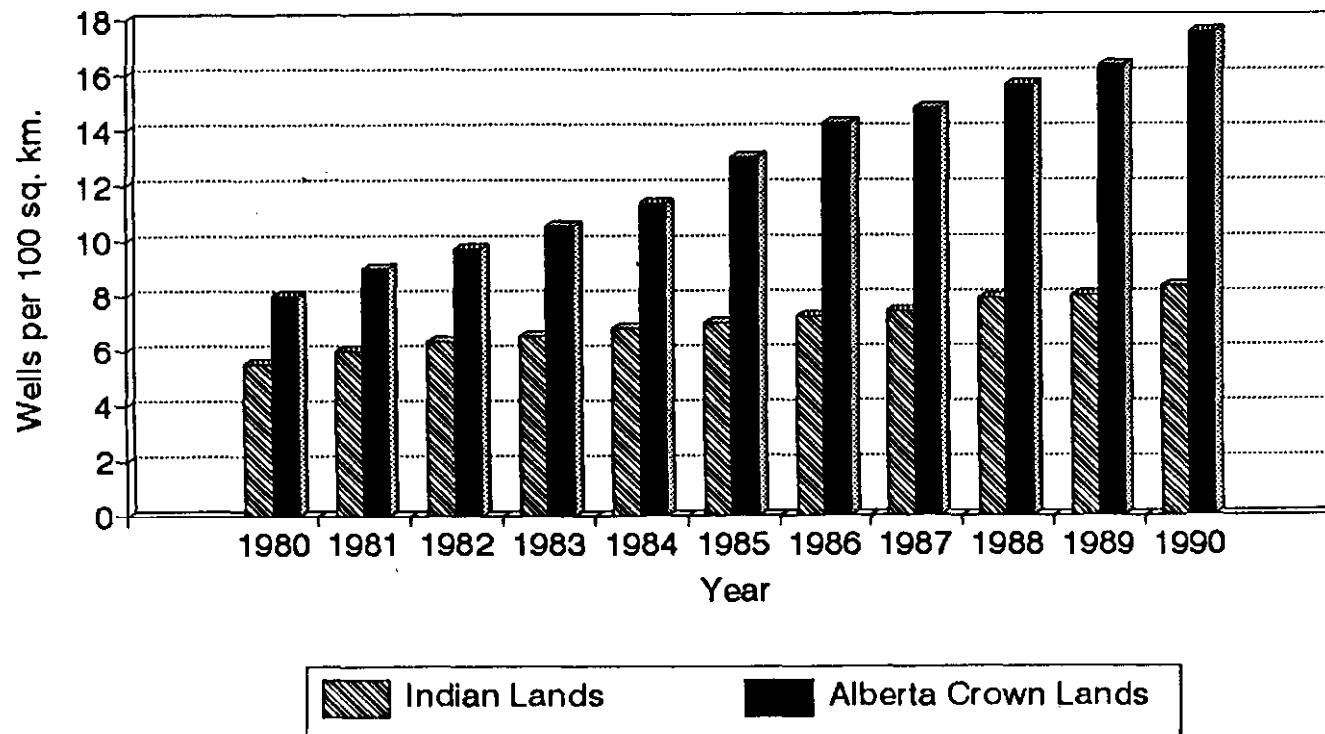


Figure 5.3
Drilling Density, Alberta Sedim. Basin



6. Resource Revenues and Self-Sufficient Aboriginal Economies in Saskatchewan

The relationship between natural resources and economic development is nowhere more apparent than in the Province of Saskatchewan. The heavy dependence of the provincial economy upon the export of primary commodities, while constituting an important source of economic growth, leaves it vulnerable to fluctuations in international demand. To avoid the "boom and bust" syndrome familiar to export-oriented economies, Saskatchewan has endeavoured to create a more diversified economic base by fostering the development of the manufacturing and service sectors. One strategy, in this regard, has been to redirect revenues obtained in the resource sector to promote secondary and tertiary industries.

In many respects, attempts to diversify the provincial economy parallel the objectives of aboriginal communities for greater economic self sufficiency. Aboriginal communities face many of the same obstacles to economic development: distance from major urban markets, inadequate transportation and commercial infrastructure, and a shortage of skilled workers. But these problems are compounded by a limited revenue base: aboriginal communities seldom enjoy access to resource rents in the form of royalties and corporate tax income. If aboriginal self-determination is to be a realistic objective, then the transfer of a share of the province's fiscal capacity is an obvious prerequisite.

This section considers the potential for resource rents to generate sustainable economic development in aboriginal communities. We first examine natural resource industries in Saskatchewan, their relationship to the overall economy, and the magnitude of economic rents accruing to the provincial government. Subsequently, we consider an example of successful community economic development--the Kitsaki Development Corporation of the La Ronge Band--and the potential for expanding and replicating such

initiatives. Since an injection of venture capital is needed to support diversified, small-scale development, it is argued that the transfer of a share of provincial resource rents is a viable means of financing aboriginal economic self-determination.

6.1 Resource Revenues in Saskatchewan

Primary industries--agriculture; forestry, fishing and trapping; mining; and oil and natural gas--constitute a significant percentage of gross domestic production (GDP) in Saskatchewan. Agriculture, traditionally the cornerstone of the provincial economy, suffered from poor harvests and a sharp decline in prices throughout the 1980s.¹⁷ As a result, the value of agricultural output declined from 16.8 to 9.6 per cent of provincial GDP between 1981 and 1991 (see Table 6.1). The mining sector--dominated by the production of uranium (\$338 million in 1991), potash (\$765 million), crude oil (\$1,203 million) and natural gas (\$379 million)--was also adversely effected by slumping commodity prices. Consequently, the contribution of mining to total GDP declined from 11.5 to 5.3 per cent between 1985 and 1991. Forestry, fishing and trapping maintained a constant and minor share of total provincial output (less than 1 per cent). Thus, the contribution primary sector to total GDP declined significantly (from 27.7 to 16 per cent over the decade), although it continues to account for a large share of the provincial economy.

The total value of output, however, does not fully reflect the importance of primary commodities in the provincial economy. Investment in, and production of, primary commodities generates significant "spread" or multiplier effects. They stimulate industries that supply inputs into the production process (eg. manufacturing of agricultural equipment, construction, transportation, and financial services); industries

¹⁷The average farm price of wheat declined from \$210 per tonne in 1980 to \$108 per tonne in 1991.

that utilize primary commodities as inputs in the production process (food processing, mineral refining); and, by increasing local income, secondary and tertiary industries that cater to demand in provincial markets. One aspect of these multiplier effects, the "backward linkages," is reflected in Table 6.2. The value of primary commodity exports is much greater than the value of output in primary industries. This difference represents the value-added by secondary and tertiary industries in the province (transportation, primary processing, handling and financing) prior to the commodity's export. Primary commodity exports represent roughly two-thirds of the value of total provincial exports, and over one-fourth of provincial GDP. The dependence of the provincial economy of natural resource industries, therefore, is much higher than simply the value of total output in resource industries.

Saskatchewan's vulnerability to variations in international demand for primary products accounts for the sluggish performance of the provincial economy since 1986. Annual rates of economic growth lagged well behind the national average; net out migration from the Province increased significantly and resulted a decline in total population; unemployment rates rose significantly; and the size of the provincial debt, incurred to offset the decline in private production, increased to the point that Saskatchewan carries the highest debt-per-capita burden of all Canadian provinces.

Government policy has pursued two objectives: 1) to maximize its share of the economic rents accruing from resource development; and 2) to diversify the economic base of the province by "building on natural strengths." Since the mid-1970s, the Province's approach to resource rents has been based upon two principles:

First, the companies developing the resources should retain sufficient revenue to cover their operating expenses and the provide a fair return on their investment commensurate with the risk involved. Second, the owners of the resource--through their Government--should receive any revenues in excess of those

required by the producing companies (as outlined above). On the basis of these two principles, the Government has obtained a high return from its energy resources while ensuring that the energy resource industries remain in an economically viable position. (Saskatchewan, 1977: 42)

To determine how effective the Government has been, in this regard, would require a detailed analysis of the payments to factors of production in each industry. In the absence of such a study, provincial royalty income can be examined to gain a partial insight into the size of resource rents in the Province. Since the Crown has retained only a portion of surface and sub-surface rights, private firms and individuals capture a large share of the returns accruing to landowners, and the government enjoys other fiscal instruments--such as corporate incomes taxes--to capture a share of rents. Nonetheless, provincial royalties provide an "order of magnitude" of the Crown's claim to economic rents, and represent a significant measure for policy considerations: if aboriginal people were to claim a share of resource rents, they might expect to accomplish this through sharing the provincial government's claim on rents.

Table 6.3 displays the annual royalty income of the Province of Saskatchewan for each year between 1981 and 1991. This income, derived almost exclusively from the mining and oil and gas sectors, represents only a small share of total rents. Falling resource prices greatly reduced the royalties collected by the Province: between 1981 and 1991, royalty income was cut in half, from \$531 to \$267 million. Revenues rebounded in 1992 and 1993, however, and can be expected to increase with the recovery in international commodity prices.¹⁸ In 1992/93, royalties accounted for 8 per cent of total provincial government revenue.

¹⁸During the fiscal year 1992/1993, royalty income rose to \$350 million and is forecast to increase slightly in 1993/94 (Saskatchewan, 1993: 76).

How much leverage does the resource sector provide in achieving diversification? Initiatives directed at economic diversification have centred on the "upgrading" of primary products like grain, oil, wood, pulp and potash, rather than their export in a semi-processed form; manufacturing more of the equipment and technology used in resource sectors; and expanding advanced technology for communications, aerospace, and biotechnologies. The policy instruments for achieving this goal have differed between NDP and Conservative administrations. During the 1970s, the NDP government utilized Crown corporations in the potash, oil and forestry sectors to direct investment and to enhance the Province's claim on revenues;¹⁹ in contrast, the subsequent Conservative government chose to privatize a portion of Crown corporations through public share issues in SaskOil, and the Potash Corporation of Saskatchewan (now the CIC Mineral Interest Corporation). Although the emphasis upon public and private ownership has differed, provincial governments have played an active role in fostering investment outside of the resource sector.²⁰

But despite a long history of government-directed diversification initiatives, limited progress has been achieved. Investment remains highly concentrated in capital-intensive, high-technology resource sectors, and few benefits have "trickled down" to non-urban residents. The observation offered by the Canadian Department of Regional Economic Expansion in 1979 has equal veracity today:

Many of Saskatchewan's northern, rural and native residents remain excluded from the benefits of provincial expansion through isolation and restricted access to opportunities despite arrangements to alleviate these circumstances through federal-provincial and provincial-private sector initiatives. (Canada, 1979: 2)

¹⁹The Heritage Fund was created in 1978 as a depository for all non-renewable resource revenues.

²⁰The conservative government supported investment in the Weyerhaeuser fine paper mill at Prince Alberta, the Saferco Fertilizer plant at Belle Plaine, the Millar Western pulp mill at Meadow Lake, the Co-op NewGrade Upgrader in Regina, the Prairie Malt plant at Biggar, and the Bi-Provincial Upgrader in Lloydminster (Saskatchewan, 1991: iv).

The failure of government policy to support aboriginal economic development in northern communities is amply apparent in the sizeable migration of aboriginal people to urban centres, such as Regina and Saskatoon, where they are generally ill-equipped to compete for available employment. A 1985 Task Force attributed the lack of development in rural areas to the fact that "local government has undertaken a rather passive role in industrial development":

If there has been a failure in the development of economic programs or community development programs, it has been their implementation. . . . in general rural Saskatchewan does not have effective vehicles or organizations to make the maximum use of programs and services that are available. Generally that responsibility has rested with municipal councils and the community administrators, or individual entrepreneurs and business people. In most cases small communities are not organized and not capable of pursuing economic development. (Saskatchewan, 1985)

The Task Force recommended the formation of Community Development Corporations (CDCs), assisted by financial and technical assistance at the sub-provincial level, as appropriate vehicles for economic development in rural areas. How effective might CDCs be for aboriginal economic development? One prominent example--the Kitsaki Development Corporation--provides a useful case study of the opportunities and obstacles experienced in this regard.

Table 6.1: Gross Domestic Product in Primary Industries, Saskatchewan, 1981-1991 (\$ million)											
Year	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Agriculture	2,157	2,294	1,631	1,519	1,768	2,331	1,451	1,790	1,529	1,740	1,851
Forestry	43	47	46	46	42	42	42	44	45	44	46
Mining	1,243	1,086	1,400	1,798	1,907	996	1,282	1,054	1,071	1,122	1,012
Total*	3,454	3,435	3,084	3,371	3,725	3,377	2,785	2,899	2,654	2,916	2,919
% of GDP	27%	25%	21%	21%	22%	20%	16%	16%	15%	15%	15%
* Includes fishing and trapping.											
Source: Saskatchewan, Bureau of Statistics, <i>Economic Review 1992</i> , Table 19.											

Table 6.2: Exports of Primary Commodities, Saskatchewan, 1981-1991 (\$ million)											
Year	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Grain	2,776	3,189	3,201	3,322	2,233	2,002	2,473	2,611	2,013	2,190	2,592
Crude Oil	1,249	1,418	1,706	2,015	2,215	1,109	1,450	1,075	1,187	1,439	1,339
Lumber	15	8	16	16	15	13	14	10	12	15	16
Uranium	267	251	121	354	456	457	637	463	380	344	304
Potash	995	653	686	829	621	553	727	974	880	794	765
Total	5,302	5,519	5,730	6,536	5,540	4,134	5,301	5,133	4,472	4,782	5,016
% of Exports	76%	77%	78%	78%	74%	67%	71%	69%	64%	61%	65%
% of GDP	37%	37%	38%	40%	32%	25%	31%	28%	23%	23%	25%
Source: Saskatchewan, Bureau of Statistics, <i>Economic Review 1992</i> , Tables 6 and 9.											

Table 6.3: Province of Saskatchewan, Royalty Revenue, 1981-1991 (\$ million)											
Year	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Royalty Income	531	518	611	756	608	258	329	330	341	332	267
Source: Saskatchewan, Bureau of Statistics, <i>Economic Review 1992</i> , Table 28.											

6.2 The Kitsaki Development Corporation

Decter and Kowall (1989) offer the Kitsaki Development Corporation (KDC) as an important case study of successful economic development at the community level. Created in 1981 by the La Ronge Band to oversee a handful of previous development initiatives sponsored by the Band and various levels of government, it has evolved into an important vehicle for the administration and long-term planning of economic development. Its track record, in a diverse number of profitable commercial undertakings, provides important lessons on the possibility of creating self-sufficient aboriginal economies.

The La Ronge Band comprises 3,800 members on seven reserves scattered throughout northern Saskatchewan (Kitsaki, Grandmother's Bay, Stanley Mission, Hall Lake, Morin Lake, Far, Little Red Reserves). Through the devolution of DIAND authority and local control over education, the Band has historically exercised greater jurisdiction over its own affairs. In 1988, it had a budget of \$15 million, and employed 400 in the provision of municipal infrastructure, education, and social assistance. Existing band institutions, however, lack the managerial expertise and organization structure to pursue a long-term economic development strategy. Mandated to meet the short-term needs of its members, it has neither the financial capacity nor requisite managerial skills to undertake commercial ventures.

The KDC was thus created by the Band as an "arms-length" economic development corporation. Free from political pressures, and under the "tutelage" of external managers, it is responsible for identifying and pursuing profitable commercial ventures. The obstacles to economic development in northern Saskatchewan are imposing: a low population density which discourages commercial and industrial development; a shortage of a skilled work force, and financial and professional expertise; and the absence of basic commercial infrastructure. These barriers are

compounded for aboriginal communities that lack a sizable tax base to generate venture capital.

This makes the modest success achieved by the KDC all the more remarkable. In 1989, KDC was involved seven businesses, employing 92 individuals and with total sales of \$10.5 million:

- *Northern Resource Trucking Company*, a joint venture between KDC (10%) and Trimac Transportation of Calgary, employs 55 people, operates a fleet of 30 trucks, and handles 80 per cent of heavy bulk fuel trucking in northern Saskatchewan. It is a large (\$7.5 million in gross revenue) and extremely profitable (\$400,000 in 1988) enterprise. It also operates an autoparts franchise as a subsidiary.
- *Northland Processors* is a joint venture between KDC (55%) with a private entrepreneur. It produces smoked and processed meats to European and North American markets. It had sales of \$1 million in sales in 1988, and planned modernization and expansion could increase this to \$4 million.
- *Keethanow Bingo North* is owned by KDC and leased to an independent operator.
- *La Ronge Wildrice* is a processing operation, owned jointly by three Bands and twelve individuals. It supplies wild rice and wild berries to overseas markets.
- *Lac La Ronge Marina*, built in 1986 to service local campsites, is leased to a band member.
- *First Call, Inc.* operates an ambulance and hearse service to northern Saskatchewan. KDC holds a 10 per cent equity interest.

- *First Nations Insurance* is a joint venture with Great West Life Assurance of Winnipeg, but wholly-owned by KDC. Located in Prince Albert, it supplies group insurance to employees on reserves.

The list of commercial ventures reflects several of the KDC's priorities (see Table 6.4). Decter and Kowall (1989) summarizes this approach in the following terms:

- *Capacity building.* In the absence of a conducive business environment, each enterprise adds to the commercial infrastructure of the region and enhances the likely success of future ventures. This experience also serves the specific objective of greater Band expertise in community-based planning, business management, and project feasibility analysis. Not all enterprises can be immediately profitable, but the experience gained in one venture contributes to the knowledge and expertise necessary for others. For instance, processing of wild rice and berries offers the potential for developing a gourmet food industry; and the experience gained in small-scale insurance projects provides a window of opportunity for expansion into other financial services.
- *Rigorous project appraisal.* The obstacles to economic development in remote areas of northern Saskatchewan dictate the need for thorough feasibility analysis of potential projects. Food processing enterprises, for instance, have proved successful where the particular commodities (such as wild rice and berries) can be inexpensively transported to distant export markets.
- *Joint ventures.* Partnerships with large, experienced companies and smaller entrepreneurs has allowed the KDC access to outside capital, to borrow technical and financial expertise, and to share the burden of risk.

- *Diversification.* The list of current businesses displays a wide range of activities, including food processing, transportation, entertainment and financial services. The variety of undertakings, each closely related to either the resource base or consumption trends in the region, insulate the KDC from cyclical downturns in one particular sector of the economy.
- *Emphasis on Business Success.* The primary criteria for investment is on profitability, with job creation a secondary concern. The underlying premise is that sustained employment creation is predicated on viable commercial enterprises.

As the KDC evolved, it assumed a greater role in long-range planning. The KDC is currently considering the purchase of a second food processing operation and a local aviation firm; construction of a resort development and retail mall; investment in a mining services company; and participation in a native mining consortium.

The experience of the KDC suggests that CDC can be an effective means of generating development at the local level. Its capacity to achieve a self-sufficient community economy, however, is directly dependent upon obtaining access to additional financial resources. According to Decter and Kowall:

KDC has reached a level of profitability that can support its core operations. In other words, as long as there is no significant setback in its business operations, it is a self-sufficient model. It will not, however, reach its objective of self-sufficiency for the Band without continuing injections of equity capital from government funding agencies. This is because the scale of operations would need to increase by something like 500 to 700 percent to provide self-sufficiency for the band. Capital is simply not available on this scale within the Lac La Ronge Indian Band and private lenders remain sceptical. (Decter and Kowall, 1989: 37)

Decter and Kowall (1989: 38) conclude that the KDC is an important example of successful aboriginal economic development, with "high potential for replicability" (38). Realizing this potential, however, will require access to financial resources that are currently beyond the capacity of aboriginal communities to generate.

Table 6.4: Operating and Proposed KDC Business Ventures, 1988			
Operating Businesses	Status	Employment	Comments
Northern Resource Trucking	Profitable	55	Joint venture with Trimac Transportation, Calgary (90%)
Keethanow Bingo North	Profitable	15	Wholly-owned, leased
La Ronge Wild Rice Corp.	Profitable	2	Joint venture with private partners
Northland Processors	Breakeven	14	Joint venture with private partner (55%)
First Nations Insurance	Profitable	2	Wholly-owned, in association with Great West Life Assurance, Winnipeg
La Ronge Band Marina	Breakeven	2	Wholly-owned, leased
Hall Lake Store	Losing	2	Wholly-owned, leased
Sub-Total		92	
Proposed Businesses	Status	Potential Jobs	Comments
Air Ronge Retail Mall	Proposed	70	Seeking "anchor" tenant
La Ronge Motor Hotel	Proposed	60	Purchase and redevelopment
La Ronge Industries	Proposed	4	Purchase of existing enterprise
Nature Berry	Proposed	16	
Native Mining Consortium	Initiated	55	
Strategic Investment Program	Initiated	106	
Sub-Total		311	
Source: Decter and Kowall (1989).			

6.3 Financing Self-Sufficient Aboriginal Economies

The model of the community development corporation--operating on an arms-length basis from band political institutions--extends to aboriginal communities the administrative autonomy to pursue commercial ventures on the basis of sound business practices. Financial independence from the band also allows it to channel retained earnings into reinvestment and enlarged equity interest; to secure debt financing without increasing the liability of the band; and to gain access to the necessary technical and professional expertise. The CDC is also better equipped to identify commercial opportunities that tend to be more highly-integrated with the needs of the community, and a greater share of the income generated remains in the region.

Its future success clearly depends upon access to injections of venture capital that is well beyond the means of an individual community to generate from local sources, or the secure from debt financing. It self-determination is to be economically feasible, aboriginal communities must be ceded access to a share of the resource rents currently accruing to the provincial government in the form of royalty income.

Appendix: Commentary on the First Nations Consults/Cooper & Lybrand Study on Resource Revenue in Saskatchewan

In 1992, First Nations Consultants Inc., in association with the Coopers & Lybrand Consulting Group, offered "An Assessment of Benefits Received and Foregone by Indian Nations as a result of the Treaties signed between the Crown and the Indian Nations in Saskatchewan." The purpose of the report (hereafter referred to as the FNC/C&L study) is to develop a model to estimate the benefits received and foregone by Indian Nations as a result of treaties signed, for each year between 1926 and 1988. The model examines four resource sectors of the economy (Agriculture; Forestry, Fishing and Trapping; Mining; and Electricity and Gas), and measures the net losses to Indian Nations as the difference between the Gross Domestic Product (GDP) generated in these four sectors and payments made to Indian Nations by the Federal Government as a result of signing treaties. Net losses are found to be enormous. In 1988, for instance, aboriginal people received benefits of \$250.1 million; suffered losses (or foregone benefits) of \$2,085.4 million; or a net loss of \$1,835.3 million.

The FNC/C&L study is an important attempt to place the historical inequities created by treaties in quantitative perspective; however, it has several methodological shortcomings. This appendix offers a critical assessment of the FNC/C&L study. Discussed in turn is the model adopted, the basis for calculating monetary benefits and losses, and the interpretation the results. While there is no question that aboriginal people experienced sizeable losses due to treaties, the magnitude of the foregone benefits are likely to be smaller than those predicted by the FNC/C&L study.

a. Model

If treaties represented the transfer, between sovereign nations, of title to all the land in present-day Saskatchewan, what were the benefits received and foregone by

aboriginal people in the exchange? The FNC/C&L model seeks to answer this question by comparing the actual benefits received by aboriginal people due to treaties, to the benefits foregone in a "counterfactual" scenario. This scenario is based upon the following assumptions:

- in the absence of treaties, aboriginal people would have retained control over all non-urban land and resources in the Province;
- aboriginal people would have developed resource industries in a manner identical to that which actually occur;
- by virtue of their control over resource industries, more aboriginal labour would be utilized; specifically, aboriginal labour would displace non-aboriginal labour until the unemployment rates of the two groups was equalized;
- by virtue of aboriginal management of all producing enterprises in resource industries, aboriginal people would claim all non-wage income;
- trends in population, and employment and output in other industries, would have been identical to their historical patterns.

This scenario is vulnerable on both political and economic grounds. Politically, it is appropriate to assume that aboriginal people would have pursued a similar development strategy? If, as we have argued previously, economic development has generated substantial social and environmental costs borne by aboriginal people, it is highly doubtful that aboriginal control would result in the same pattern of resource exploitation. Presumably, aboriginal self-determination entails more than merely replacing non-aboriginal managers and workers with aboriginal ones; instead, it involves a unique approach to the use of land and its natural resources.

Economically, would it have been feasible for aboriginal peoples to generate the same rates of economic growth? The model assumes that resource industries, and not merely the resource base, is fully managed and controlled by aboriginal peoples. Economic growth, however, involves the accumulation of tangible capital goods and "human capital." Capital goods--buildings, machinery and equipment--need to be purchased, and financing such purchases is not a trivial exercise. Would lenders on European and North American capital markets have been willing to extend to aboriginal peoples the same financial considerations? Similarly, since human capital results from the acquisition of labour skills through education, training and employment experience, the model's assumption that "Indian workers would . . . experience the same unemployment and labor force participation rates that non-Indian society has experienced" (3) is problematic. This is not to suggest that aboriginal people lack the capacity to acquire the requisite professional, technical and entrepreneurial skills, or to accumulate the capital goods needed in the production process. But economic development is not a simple process: it involves a lengthy process of investment to attain the necessary capital and labour endowments.

Any model based upon a comparison of a counterfactual and an actual state of affairs is vulnerable to criticisms of this nature. There is an obligation, however, to present the most plausible alternative scenario and to emphasize the limitations and potential biases introduced in the modelling process.

These qualifications notwithstanding, a more serious misgiving with this scenario remains. To characterize treaties as an explicit exchange of land for government transfer payments runs contrary to ample documentary evidence on the histories of specific treaty negotiations. While the obligations of the Federal Government were explicit, it is not

apparent that aboriginal signatories were consciously ceding all title to land.²¹ Aboriginal concepts of land ownership, as expressed in treaties, entailed shared access to resources and not the complete extinguishment of aboriginal property rights (cf. Slattery, 1991). By accepting the logic of the FNC/C&L study--ie. that the two parties entered into a explicit contract with complete appreciation of the terms and conditions--it is possible merely to conclude that aboriginal peoples made a "bad deal" and, by implication, there would be no legitimate claim to remedy historical injustices. This does not represent an appropriate context for current discussion of aboriginal rights in Canada.

b. Calculation on Monetary Benefits and Losses

The FNC/C&L study estimates the benefits received by aboriginal peoples in a straight-forward manner: how much was received in Federal Government payments? This narrow definition is inconsistent with the model's assumption that treaties extended to aboriginal peoples the full rights and obligations of Canadian citizenship, including the benefits of access to general public goods (such as highways and roads, hospitals, education, defence), and the obligation to pay various taxes. Hence, while a narrow focus on Federal Government payments is a useful first approximation, a complete analysis would include the value of all government services received and the taxes paid, by aboriginal people.

More problematic is the measure of benefits foregone. The FNC/C&L study defines these as the value of Gross Domestic Product (GDP) in four resource industries

²¹ The report also incorrectly interprets the Government of Canada's motivation for entering into treaties. The primary objective was *not* to hasten exploitation of the "lucrative fur trade," which had long since declined in economic importance, but to open up western lands for agricultural settlement. The distinction is not a trivial one: the fur trade was directly dependent on aboriginal peoples as the primary producers; development of the wheat economy was premised upon the removal of aboriginal people from the land in favour of non-aboriginal agricultural settlement.

(agriculture; fishing, forestry and trapping; mining; and electricity and gas), with the exception that some wages income would accrue to non-aboriginal labour. In the absence of treaties, aboriginal people would have received a larger share of wage income, and all "Ownership GDP"--or non-wage income--generated in resource industries. "Tier 1" losses are defined as wage income received by non-aboriginal, or "guest" workers, that could have been earned by employing aboriginal labour in the production process; and "Tier 2" losses are defined as the "Ownership GDP," or the payments received by non-aboriginal owners of the capital and land/resource inputs used in production.

Using GDP as a measure of the benefits foregone, gravely overstates the case. Production in an industry results from the application of land, labour and capital inputs, and the resulting income is divided between rent, wages and profit/interest respectively:

$$\begin{aligned}\text{GDP} &= (\text{Returns to Capital}) + (\text{Returns to Labour}) + (\text{Returns to Land}) \\ &= (\text{Profit/Interest}) + (\text{Wages}) + (\text{Economic Rent})\end{aligned}$$

The FNC/C&L study confuses the *total* value of output (GDP) with the *share* of output accruing to the landowner (economic rent). Treaties involved the ownership of land, and *not* the capital goods involved in resource industries. Income accruing to landowners for the use of natural resources (ie. economic rent) may be properly defined as lost benefits to aboriginal people; however, it is inappropriate to include profit and interest payments paid to private and public enterprises in return for the use of tangible capital goods (buildings, machinery and equipment). The FNC/C&L study fails to appreciate properly the role of capital in the production process. Firms contribute more than entrepreneurship and management skills, but also purchase or provide the use of tangible capital goods; and profit represents a "fair" return on utilized capital goods. This is not meant to imply that aboriginal people would be incapable of owning and managing resource firms, but the FNC/C&L model results is a severe double-counting:

aboriginal people claim the returns to capital (profit and interest) without having to pay for the purchase or rental of these capital goods.

This distinction is illustrated in Figure 6.1. The FNC/C&L study defines all "ownership GDP"--including profits/interest and rents--and a share of wage income, as a benefits foregone by aboriginal people; a more appropriate definition would be restricted to the returns to land, or economic rent.²²

A narrow definition of benefits foregone must be qualified in one important respect. The strength of the FNC/C&L study is the observation that control of land may have entitled aboriginal people to determine how resource development would proceed. The measure of "Tier 1" benefits recognizes that greater employment opportunities may have been created for aboriginal people, and a parallel treatment would consider the capacity of aboriginal firms to displace non-aboriginal ones. But this should not be confused with foregone economic rent, due to the transfer of land ownership, for two reasons. First, the historical capacity of aboriginal peoples to acquire the necessary capital and human capital needs to be extensively explored. Second, the income derived from the use of capital and labour is qualitatively different from economic rent paid for the use of land. The latter may be properly seen as a "windfall" gain, received for merely allowing firms the right to use natural resources. In contrast, wages are paid in return for labour effort and profit/interest is paid in return for the purchased or use of firm-supplied capital inputs. Under perfectly-competitive conditions, wage and profit rates are just sufficient to reward labour and capital inputs, respectively. In short, economic rent represents a windfall gain to the landowner, while wages and profits are "earned" by labour and capital factors of production.

²²No explanation is offered for the exclusion of the oil industry from the analysis. Since the oil fields in southern Saskatchewan have consistently yielded sizeable economic rents, this is not a trivial omission.

Appendix Figure 6.1

A. FNC/C&L Methodology

Total Gross Domestic Product		
Returns to Capital	Returns to Land	Returns to Labour
Profit/Interest earned by Non-Aboriginal Owners of Capital	Rent earned by Non-Aboriginal Owners of Land	Wages earned by Non-Aboriginal Labour
		Wages Earned by Non-Aboriginal Labour that would be earned by aboriginal labour
		Wages Earned by Aboriginal Labour

B. Proposed Methodology

Total Gross Domestic Product		
Returns to Capital	Returns to Land	Returns to Labour
Profit/Interest earned by Non-Aboriginal Owners of Capital	Rent earned by Non-Aboriginal Owners of Land	Wages earned by Non-Aboriginal Labour
		Wages Earned by Non-Aboriginal Labour that would be earned by aboriginal labour
		Wages Earned by Aboriginal Labour

Note: the shaded areas represent lost or foregone benefits to aboriginal people.

c. *Use of Available Data*

The methodological weaknesses of the FNC/C&L study calls into question the extensive data manipulation that follows. On simple methodological grounds, the validity of a model's results are only as valid as the initial assumptions. If the initial assumptions are questionable, no amount of subsequent statistical refinement can remedy errors at the initial stage of modelling and may, by extension, portray a spurious level of accuracy. In fact, the use of historical data in the FNC/C&L study introduces a number of additional problems in estimation.

The FNC/C&L study relies upon provincial input-output tables in order to estimate the GDP, or value added, in the four resource sectors. This approach requires a significant amount of data manipulation and inferences drawn from national trends, to derive workable estimates. For instance, national trends in the value-added per worker are used to estimate provincial trends. This imputation is highly suspect when applied to resource industries, since productivity varies significantly with the specific characteristics of the local resource base. Similarly, there is little data on industry-specific wage rates and labour force participation, requiring inferences to be drawn on the basis of provincial averages. Nor is it easy to replicate the FNC/C&L results from the information provided. This approach introduces several additional assumptions and approximations that further reduce the level of confidence in the estimated results.

Much more direct estimates can be obtained for provincial economic accounts and Statistics Canada data, for the Province of Saskatchewan. Data on wages, employment, output and income shares, on an industry basis, derived primarily from Statistics Canada sources, is provided in the annual *Economic Review* of the Saskatchewan Bureau of Statistics. Comparable data is not available over the entire period (1926-1988); however, precise estimates for a shorter time period, rather than less robust estimates for the longer period, appear warranted.

d. Presentation/Interpretation of the Results

The issue at hand is the current valuation of aboriginal *wealth* had treaties not ceded title to land. The FNC/C&L study calculates the *stream of annual income* lost to aboriginal people for each year between 1926 and 1988. Annual losses are presented in current dollars, and no attempt is made to aggregate the losses for the entire period. To determine the total wealth lost requires a calculation of the *present value* of the past stream of annual income losses. For example, the FNC/C&L study estimates the net loss in 1931 to be \$5.5 million; it is more informative to determine what this lost income represents in today's terms. In other words, had this income accrued to aboriginal people and been reinvested at prevailing interest rates, what would it be worth today?

This requires that the value of the stream of annual income losses be aggregated over time, and expressed in terms of its present value. Algebraically:

$$\begin{aligned} PV_0 &= NL_0(1+r)^0 + NL_{-1}(1+r)^{-1} + NL_{-2}(1+r)^{-2} + \dots + NL_{-n}(1+r)^{-n} \\ &= \sum_{i=0}^{-n} NL_i(1+r)^i \end{aligned}$$

where P_t = the present value in year t ;

NL_{t-i} = the net loss in a given year;

t = the current year;

r = the time rate of discount (approximated as the prevailing long-term interest rate) applicable to the potential income recipient.

n = the initial year in the time horizon.

In the absence of this calculation, the information contained in the annual estimates is not fully interpreted.

●
e. *An Alternative Methodology*

A more plausible, and less complicated, scenario is as follows. If aboriginal people had retained ownership of land, what rents would they have derived from permitting non-aboriginal enterprises access to natural resources? Secondly, what joint-venture and employment provisions might have been secured in agreements with private firms? The first question might be answered by assuming that aboriginal people would have acted in a manner consistent with the Crown: by pursuing a "passive" approach to land ownership, with limited direct participation in the production process, aboriginal people would have obtained the same rents as the federal and provincial governments. This approach would need to be qualified if certain forms of resource exploitation would not have been permitted--due to the environmental and social costs--if land was under aboriginal control. Answering the second question is more speculative, and demands a careful assessment of the capacity to train aboriginal workers to replace non-aboriginal workers in employment.

It is recommended that lost resource rents be estimated in a much more direct fashion. Resource exploitation in Saskatchewan, except for agriculture, is restricted to a handful of large enterprises that supply publicly-available financial information. A superior methodology would include:

- a direct measure of the *magnitude* of past resource rents generated in agriculture, forestry, fishing, mining (potash and uranium), and oil and gas; and the *distribution* of past rents between governments, unincorporated businesses (specifically farmers and fishers), and private enterprises;
- a detailed analysis of the capacity of aboriginal peoples to replace non-aboriginal labour in the production process, and the likely wage and employment consequences.

This approach is both methodologically superior and much easier to apply to data from published sources (albeit for a shorter time period).

f. Summary

The FNC/C&L study represents an ambitious attempt to measure the monetary benefits received and foregone by aboriginal people in Saskatchewan by virtue of historic treaties. The methodology adopted can be criticized on the following grounds:

- The model assumes that in the absence of treaties, aboriginal people would have retained complete control over four resource sectors of the provincial economy: agriculture; forestry, fishing and trapping; mining; and electricity and gas. This scenario trivializes the economic development process by ignoring the difficulty of obtaining access to the requisite capital and labour inputs in the production process. It also misrepresents the treaty process as an explicit exchange of all rights to land in return for Federal Government cash payments.
- Benefits received are defined too narrowly as Federal Government payments to aboriginal people, and should also include an approximation of the net benefits accruing to aboriginal people by virtue of gaining Canadian citizenship (ie. the benefits from general government spending of public goods versus the obligation of paying taxes).
- Benefits foregone are defined as all "ownership GDP" in resource industries and the additional wage income from replacing non-aboriginal with aboriginal labour. The model wrongly identifies aboriginal ownership of land with a claim on the total value of production; instead, land ownership is an entitlement only to the resource rents, and not to profit/interest and wages.

- Ownership of land also entitles the landowner to determine how the resources are to be developed. In this respect, attempts to measure the additional employment and wages paid to aboriginal workers is an important exercise, but relies too heavily on simple assumptions and indirect estimation techniques.
- The model confuses *wealth* (a "stock" concept) with *income* (a "flow" concept). Ownership of an asset (land) yields a flow of income (rent). To properly measure lost benefits over a period of time (1926-1988) requires a calculation of the present value of past benefits foregone.

The objective of establishing the benefits lost by aboriginal people due to treaties is an important and laudable one, and there is little question that aboriginal people have suffered significant monetary losses. The FNC/C&L study, however, rests on a dubious methodology that seriously overstates the benefits foregone.

7. Resource Rents and Aboriginal Self-Determination

The concept of economic rent is fundamental to understanding the dynamics of natural resource development on aboriginal lands. Economic rent defines the net social benefit attached to the exploitation of a natural resource. This includes the *net private return*, or the profit accruing to the enterprise undertaking the investment; *other social benefits*, or positive externalities generated by the project; and *other social costs*, or negative externalities, borne by individuals or groups outside of the investing enterprise. Where the economic rent is positive, there is a net social benefit to the project. All too frequently, however, the decision to proceed with a project is based on the firm's expected profit or, in the case of a government agency, the total social benefits, while other social costs are ignored. Apparently "collective" judgements over the allocation of economic resources have occurred without due consideration of the social costs borne by groups left outside of the decision-making process. The result has been not only an inefficient allocation of society's resources, but the creation of dramatic inequalities.

Three observations consistently emerge from the case studies undertaken above. First, to properly measure social costs and benefits--and, therefore, economic rents--all parties affected must be involved in the decision-making process. Second, for the owner of the land to capture a fair share of economic benefits, to mitigate the social costs, and to capture some of the economic spinoffs, an active role in the development of natural resources is needed. And third, control over revenues generated by natural resource exploitation is crucial to the creation of self-sufficient, sustainable aboriginal economies. These conclusions coincide with three current issues in the discussion of aboriginal self-determination: self-government, self-management and sustainable economic development.

7.1 Adequate Valuation and Aboriginal Self-Government

The first observation arising from the case studies is that an adequate valuation of economic rent--or total costs and benefits--associated with a natural resource project requires the participation of all affected parties in the decision-making process. For aboriginal peoples, largely excluded from the decision-making process, this has invariably meant that development has proceeded without adequate regard for their economic and social well-being. Private enterprises and governments have imposed unwarranted costs on aboriginal peoples, with both inefficient and inequitable results. An inefficient allocation of resources occurs because the total social costs are not reflected in the final price of the output; and inequity arises because the "victimization" is neither random nor voluntary. The enterprise undertaking the investment typically shifts a portion of the costs onto a specific group with little voice in the decision-making process.

A principle of common law--that one party inflicting injury upon another party should be held responsible for the damages--can promote both efficiency and equity. In the case of a polluter, for instance, imposing a tax equal to the social cost of the pollution forces the polluter to fully assess all benefits and costs when choosing to undertake an economic activity. This tax revenue may then be used to compensate the injured party. This is apparently the motivation behind efforts to compensate aboriginal groups, *ex post*, for unforeseen consequences of natural resource projects. For instance, through the Forebay Committee and the Northern Flood Agreement, Manitoba Hydro and the Province of Manitoba have established mechanisms for compensating aboriginal communities for the impact of flooding on their social and economic welfare. Similarly, the Federal Environmental Review process is designed to ensure that there are net benefits to a project and that the social and environmental costs are minimized.

To a third party, however, the social costs of resource development are often perceived to "intangible" or "unquantifiable." When considering the effects of low-level

flight training in the Ungava-Labrador Peninsula, how does one assign a dollar value to the costs borne by the Innu of noise pollution, the disruption of hunting and the loss of control over their lives? When flooding to make way for hydro-electric power production, how does one measure the costs to the Cree and Metis inhabitants of relocation and the destruction of subsistence hunting, fishing and trapping pursuits? The value one places on these costs is clearly subjective, and the most well-intentioned decision-maker, acting with the best of goodwill, cannot properly determine how the injured party perceives the costs. Nor does traditional economic theory offer much advice in valuing environmental "assets." Since control usually belongs to a government or a community, there is no organized market on which individuals may not "exchange," at a defined price, access to environmental assets. Various techniques developed to estimate the value that individuals place upon their enjoyment is fraught with difficulty.²³

An obvious mechanism for valuing apparently "intangible" costs is to vest the injured party with property rights and the power to enforce these rights in order to prevent unwanted encroachments. Coase (1960) and Dales (1968) emphasize that property rights must be clearly defined for an equitable and efficient outcome: all parties are in a position to evaluate their subjective costs and benefits, and may then voluntarily negotiate the terms and conditions necessary for the project to proceed. This implies that all parties are involved in the decision-making process *ex ante*: the project will occur only if adequate compensation, as defined by the party bearing the social cost, is forthcoming. An efficient allocation of resources is achieved because the project is

²³There are three popular methods for estimating the value of an environmental access. The "travel-cost method" draws inferences from the travel expenditures individuals are willing to make in order to enjoy recreational services. The "hedonic-price method" seeks to disaggregate the value of real estate according to the various characteristics that a property offers (location, access to amenities, natural beauty, etc.). And "contingent valuation" seeks to determine the value individuals attach to environmental assets through survey methods. For an overview of these techniques and their shortcomings, see Anderson and Bishop, 1986).

evaluated on the basis of *all* social benefits and social costs; and equity is assured since the party bearing the social costs is in a position to determine the appropriate level of compensation (Coase, 1960; Bromley, 1986).

The application to aboriginal issues is obvious, for it parallels the definition of self-government. As Bartlett (1986: 3) emphasizes, "self-government" must include entrenched authority over the "administration of aboriginal lands and resources, including use, access, control, management, disposition and taxation, so as to ensure that all use and development with respect to its land and resources is in accord with, and provides the maximum benefit, for the interests of the community." By vesting aboriginal groups with the rights to the natural resources, they have the capacity to assess the subjective costs to be borne and to decide if the expected benefits are sufficient to warrant these costs. Recognizing Innu title to lands in the Ungava-Labrador Peninsula would give the Innu a role in the decision-making process; and, similarly, if the Cree and Metis affected by flooding in Northern Manitoba had been given property rights over the area, they are in a position to determine if the costs to be borne are warranted by the expected benefits.

Morse (1987) outlines several mechanisms for broadening and strengthening aboriginal land entitlement. Section 35 of the Constitution Act emphasizes the need to recognize outstanding and existing commitments, particularly in the form of comprehensive land claim settlements; treaty land entitlement have yet to be fully and properly implemented; and past treaties may be "renovated" to reflect their true spirit and intent (2-3). Alternatively, where aboriginal title has been extinguished, title to Crown land in non-reserve areas may be transferred to aboriginal peoples; and land acquisition funds may be created to "acquire" or "reacquire" non-Crown land for aboriginal use. Fully-vested rights to land are essential if development is to proceed on both an efficient and equitable basis, and if aboriginal peoples are to exercise control over the pace and pattern of development on their own lands.

7.2 Inclusive Institutional Structures and Aboriginal Self-Management

The second conclusion emerging from the case studies is that landowners must actively participate in the development of natural resources if they are to maximize their share of the accrued benefits. This is true in three respects: first, to secure sufficient information to assess the value of the natural resource deposit; second, to maximize the "spinoffs" or "linkages" generated by resource exploitation; and third, to direct the reinvestment of resource rents into the creation of a more diversified economic base. An important aspect of self-government, therefore, is the self-management of land and its resources.

The shortcomings of excluding aboriginal people from an active role in the management of resources is amply illustrated in the administration of oil and gas rights on "Indian lands." While the Indian Oil and Gas Corporation (IOGC) is mandated to encourage aboriginal self-management, it can be argued that the complex bureaucracy overseeing oil and gas development systematically discourages aboriginal participation. The "passive" rent collection system adopted by the IOGC--whereby the landowner's activity is limited to leasing land rights--is criticized as an ineffective means of capturing resource revenues. The landowner cedes to the producing enterprise superior knowledge of the geological potential of the reservoir, leaving the landowner in an unenviable position when negotiating future oil and gas leases. Moreover, the federal government may frequently find itself in a contradictory position when seeking to reconcile its fiduciary responsibilities to aboriginal people with its broader objective of encouraging rapid growth in the oil and gas industry. As the Saddle Lake band points out, the past practice of offering concessions on royalties in order to hasten oil and gas exploration may not have been in the long-term interest of aboriginal owners of oil and gas rights.

Second, exclusion from direct management of oil and gas rights limits the capacity of bands to capture many of the other social benefits associated by oil and gas

development. The IOGC is directly responsible to the Minister of Indian and Northern Affairs Canada, reducing aboriginal organizations--such as the Indian Energy Corporation--to an advisory capacity. Efforts by aboriginal peoples to secure employment guarantees, technical expertise, and managerial experience through joint ventures in the industry largely occurs outside of the formal administrative apparatus.

Third, the disbursement of oil and gas revenues, held in trust for bands by the federal government, is subject to several obstacles that deter aboriginal self-management. And as a curious paradox, the federal government has tacitly discouraged expenditures for economic development: under Section 64 of the *Indian Act*, bands may access monies immediately for per capita cash payments to individual members, but proposed capital projects must undergo a lengthy review process. In light of evidence to suggest that the INAC is poorly equipped to play the role of banker, the Samson and other bands have instituted legal action to gain control over their own funds.

The substantial revenues from oil and gas development, largely limited to a handful of Alberta bands, have represented a unique opportunity for aboriginal economic development. Much of this potential has, however, been dissipated. Declining prices and concerns over dwindling reserves accentuate the need to reform the administration of oil and gas rights on "Indian Lands" in order to facilitate aboriginal objectives for self-management.

7.3 Resource Rents and Sustainable Aboriginal Economies

The third observation forthcoming is that access to resource rents is essential to the creation of self-sufficient, sustainable aboriginal economies. There are few, if any, examples of successful economic development that has occurred in the absence of control over the primary resource base, and aboriginal economies are no exception.

Economic development strategies in the Province of Saskatchewan offers a case in point. The historic reliance upon primary commodity exports--wheat, uranium, potash, and oil and gas--has left the province vulnerable to wide swings in international demand. The provincial government has, with mixed success, sought to create a more diversified economic base by capturing many of the "linkages" from the exploitation of natural resources. And the rents captured from resource development constitute an important source of provincial revenue for financing economic diversification.

In many respects, the activities of the Kitsaki Development Corporation (KDC) parallels the provincial initiatives to broaden the economic base. The KDC is one example of a prudent, cautious approach to long-term community planning directed towards building a self-sufficient aboriginal economy. The emphasis on "capacity building," both in terms of commercial infrastructure and "human capital"--or skills, expertise and general knowledge--is crucial to further economic development. The difference, however, is that the KDC lacks access to resource revenues as a source of funds for reinvestment. If aboriginal self-government is to be a reality, it requires a transfer of resource rents--including to and between aboriginal peoples--to finance self-sufficient economic development. This implies a very different approach than that incorporated in the Canadian Aboriginal Economic Development Strategy. While the creation of a fund for aboriginal economic development is a sound one, the administrative apparatus for instituting such a program is contrary to the expressed goal of aboriginal self-management.

Resource rents are no panacea for economic development. Exploitation of a non-renewable resource base is, by definition, not the basis for a sustainable economy. Once the resource base is exhausted or no longer economically-viable, the community may disappear or become dependent upon government transfer payments for its survival. The experience of numerous one-industry mining towns in Canada--Lynn Lake, Gagnon, Fermont, Schefferville, and Elliott Lake, to name just a few--are ample testimony to this

fact. The viability of a resource-based economy depends upon its capacity to manage or "reproduce" a "renewal" resource base, or use revenues for non-renewable resources to achieve the transformation to a more diversified economy.

7.4 Conclusion

Land has always been central to the social and economic well-being of aboriginal communities in Canada. The management of the natural resources--for both commercial and subsistence pursuits--has, and will continue to be, a predominant aspect of aboriginal economies. If the related goals of self-determination, self-government and economic sustainability are to be achieved, aboriginal control of land and the revenues it generates is paramount.

This does not imply that aboriginal economies must be "modernized" to be relevant in the 21st Century. The frequently drawn contrast between "modernization" and "traditional economies" is, in many respects, a false dichotomy. It is myopic to suggest that aboriginal economies can prosper in isolation from external markets, and without access to the land, skilled labour and capital resources necessary for production; yet it is equally presumptuous to suggest that the answer is "capitalism with an aboriginal face" (Newhouse, 1993). "Modernization" entails enormous economic pressures that carry cultural baggage often threatening to "traditional" cultural pursuits. Economic development does not dictate a single path towards meeting the well-being of communities, and aboriginal peoples must be given the opportunity to define their own economic objectives.

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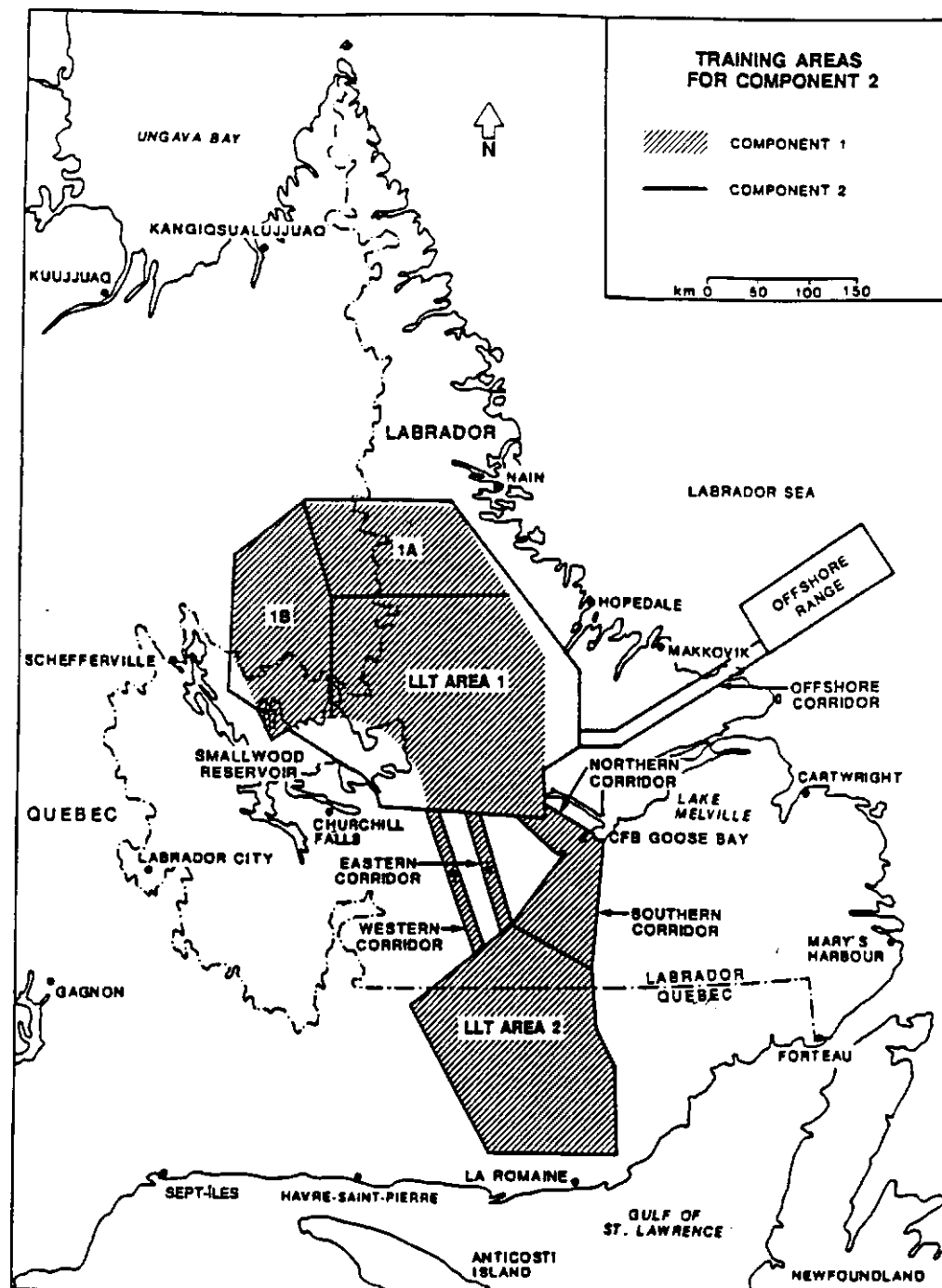
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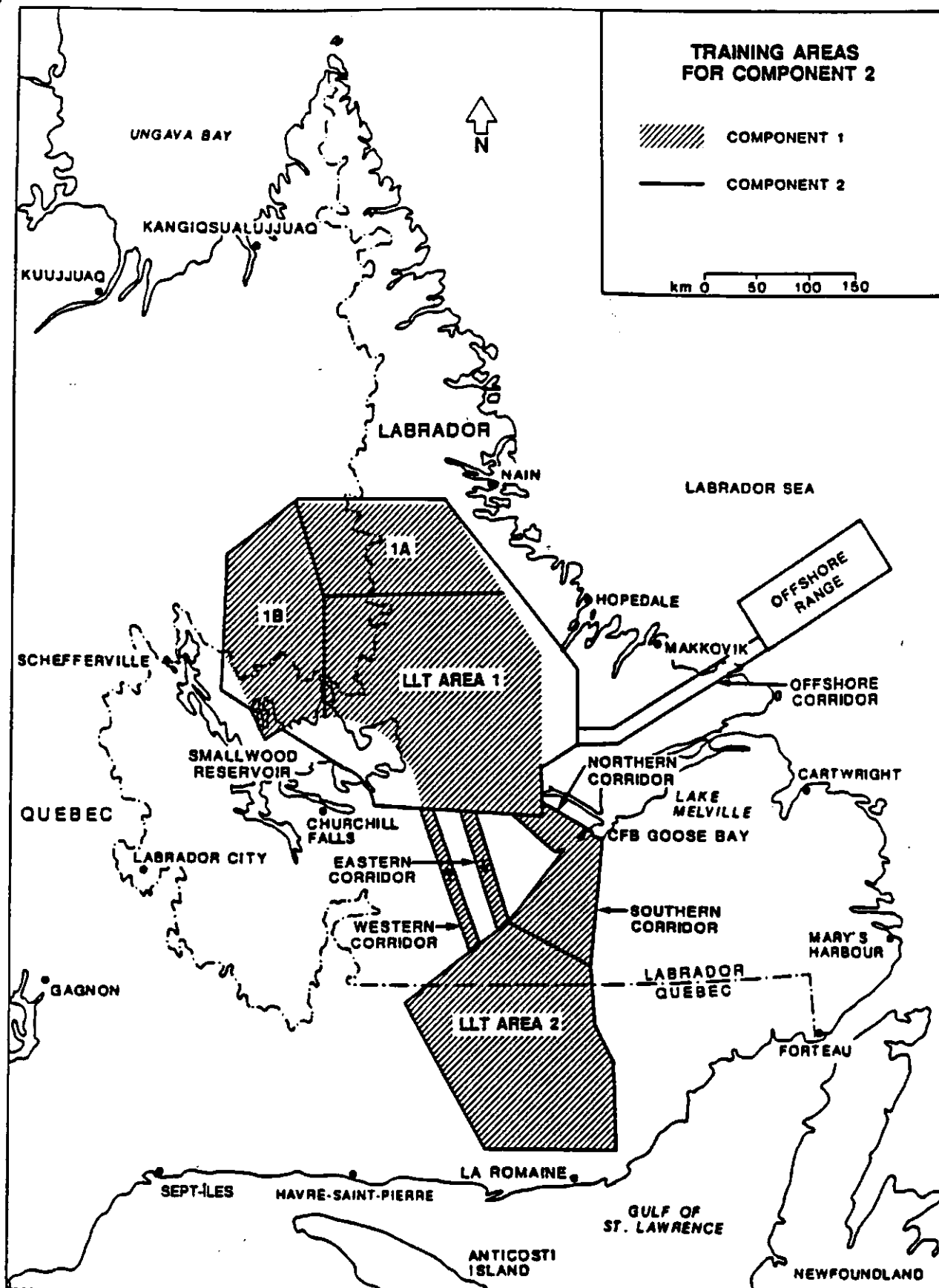


Figure 4.1

The Proposed NATO Tactical Fighter Weapons and Training Centre

Source: Canada, DND (1989).

Figure 3.1

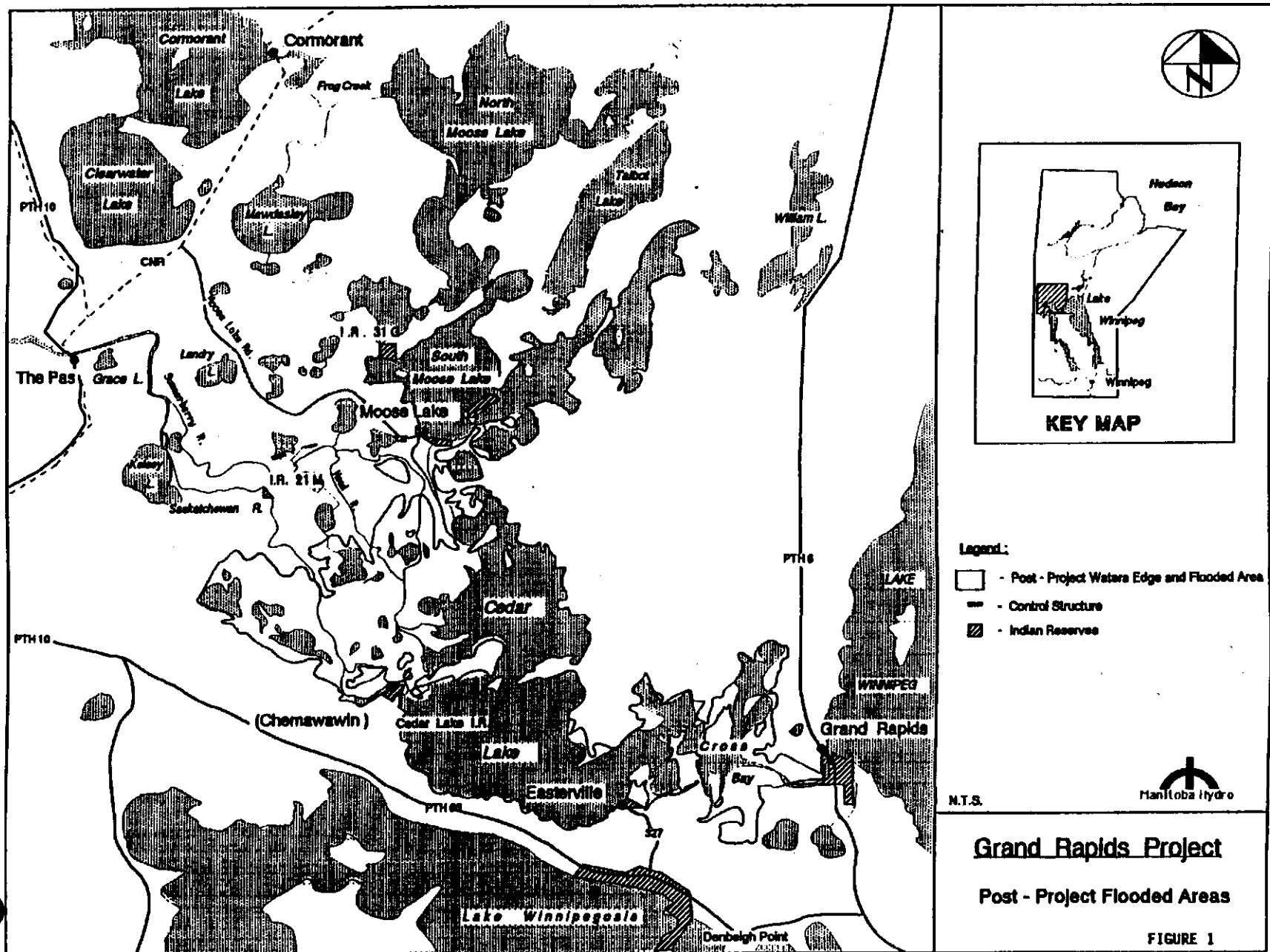


Figure 2.1

**Economic Rent in a
Hypothetical Mining Industry**

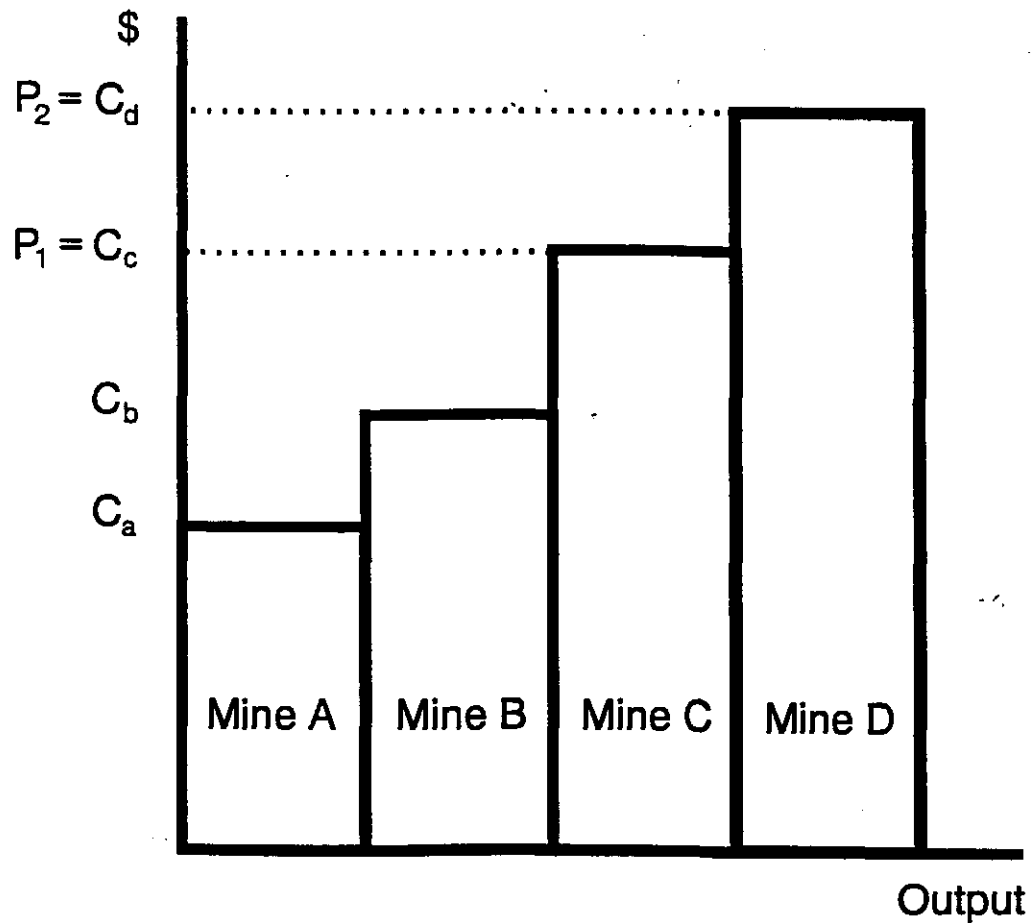


Figure 2.2

Demand-Determined Price of Land

