

THE SOCIO-ECONOMIC EVALUATION  
OF  
TRAINING BENEFITS TO TRAINEES OF THE MANPOWER CORPS  
TRAINING PLANT - SELKIRK

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## ABSTRACT

There has been an increasing amount of emphasis placed on antipoverty programs in the past number of years. Some of these programs are aimed at a particular segment of the population and designed to provide skills for unemployed and/or underemployed people. One such program is found in the Interlake area of Manitoba at Selkirk. Set up in 1969 under the F.R.E.D. Agreement, this program is aimed at Indian and Metis people in the Interlake. The program consists of a training program for carpentry, sheet metal work, painting and design. Park furniture is produced at the plant while the clients are in training.

This report evaluates the Selkirk program in terms of the benefits that accrue to the individual trainees. Therefore, the program is evaluated in terms of its own objectives.

The evaluation consisted of gathering data related to the program's impact on individual's income, employability and standard of living. In addition, data was also gathered on employment history, trainee satisfaction, family situation and the client's evaluation of the program.

The data, upon analysis, illustrated that the program had its largest impact on the increase of material possessions. This was followed by the increase of individuals' incomes. Another area of strong impact was that of increased employability. An important point to note is that most of the trainees interviewed (19 of 24) were employed immediately after receiving training. Very few held jobs immediately before entering the program.

The clients also identified areas of the training program they considered as needing improvement. These areas identified, in order of importance, included longer training periods, more classroom time, more information and instruction in the use of employment services, closer evaluation of trainees entering the program and a dissatisfaction of training allowances paid. It is important to note that the dissatisfaction of allowances was of least importance to clients.

## TABLE OF CONTENTS

	<u>Page</u>
ACKNOWLEDGEMENTS.....	i
ABSTRACT.....	ii
LIST OF TABLES.....	vii
LIST OF FIGURES.....	viii
CHAPTER	
I INTRODUCTION.....	1
Statement of the Problem.....	1
Research Objectives.....	7
Methodology.....	8
Policy Implications.....	13
II EVALUATION OF ANTIPOVERTY PROGRAMS.....	14
The Approach.....	14
Limitations of the Study.....	20
III METHOD OF ANALYSIS.....	26
Economic.....	26
Housing.....	30
Material Possessions.....	32
Trainee Satisfaction.....	32

CHAPTER		<u>Page</u>
	Total Effect.....	34
	Client Status Upon Leaving Program.....	34
	Employment History.....	35
	Family Situation.....	36
	Client's Evaluation.....	36
IV	RESULTS.....	37
	Group Characteristics.....	38
	Economic.....	39
	Housing.....	40
	Material Possessions.....	45
	Trainee Satisfaction.....	47
	Client Status Upon Leaving Program.....	50
	Employment History.....	53
	Family Situation.....	53
	Client's Evaluation.....	54
V	CONCLUSION AND DISCUSSION.....	62
APPENDICES:		
	A. QUESTIONNAIRE.....	70

	<u>Page</u>
B. COMPONENTS USED IN CALCULATION OF THE INCOME EFFECTS.....	89
C. GROUP AVERAGES USED IN ECONOMIC EVALUATIONS..	91
D. STATISTICAL ANALYSIS.....	93
BIBLIOGRAPHY.....	106

# LIST OF TABLES

TABLE		<u>Page</u>
1	Program Costs.....	5
2	Individual Income Effects and Indicators.....	41-43
3	Housing Characteristics.....	44
4	Material Possessions.....	46
5-1	Total Effects.....	48
5-2	Distribution of Total Effect.....	49
5-3	Distribution of Total Effect.....	49
6-1	Client Status - Employment History.....	51
6-2	Distribution of Total Effect, Client Status - Employment History.....	52
6-3	Distribution of Total Effect, Client Status - Employment History.....	52
7-1	Encouragement - Married Status.....	55
7-2	Distribution of Total Effect, Encouragement - Marital Status.....	56
7-3	Distribution of Total Effect, Encouragement - Marital Status.....	56
8	Statistical Test Results for Table 5-1 Indicators.....	96
9	Test Results for Variables.....	102



LIST OF FIGURES

FIGURE	<u>Page</u>
1      Flow Chart for Analysis of Training Benefits.....	9

## CHAPTER I

### INTRODUCTION

#### STATEMENT OF THE PROBLEM

In the Province of Manitoba, there are a large number of people who are either unemployed or under-employed in occupations whose rewards and returns are neither high nor certain. The problem is not, however, unique to Manitoba and Canada but has international scope. The United States has a similar problem and many types of programs have been set up to handle it, some being remotely successful, while others are not.<sup>1</sup> These people have low education levels and few marketable skills. This report is concerned entirely with people of Indian ancestry. Many of these people, due to specific criteria, are not on the official unemployment roles or do not file with any Canada Manpower Centre branch because they are in isolated communities. This group of people knows little of Canada Manpower services and functions. The generally used techniques for helping unemployed people through economic subsidies or grants to businesses, therefore, do not alleviate the problem for this group. Also, the formal requirements and the philosophy of the

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<sup>1</sup>Hansen, Niles M., "Rural Poverty and the Urban Crisis - A Strategy for Regional Development," Indiana University Press (1970).

national program of Canada Manpower are primarily aimed at those people who are in the labour force, but are temporarily unemployed, thus excluding the people in the target group. They are excluded from the regular Manpower programs intended to upgrade the labour force. Exclusion from programs is also the result of the fact that many of the programs exist only in large urban centres and are not accessible to the target group of people under study here who live on reserves and small settlements.

The Manpower Corps has established programs directly aimed at this particular unemployed group who are excluded from the monthly labour force survey, or have never been in the labour force. The programs were initiated in the Interlake area of Manitoba as part of the F.R.E.D. - Interlake Agreement,<sup>2</sup> by the Provincial Government of Manitoba.

This report will evaluate the Manpower Corps Training Centre program at Selkirk (hereafter called the Selkirk plant) in terms of trainee evaluation. The primary purpose of the plant is to:

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<sup>2</sup>Interlake Area of Manitoba - Federal/Provincial Development Agreement, 1967, Information Canada: Ottawa (1970).

- 1) equip disadvantaged people with skills so that they can find employment in the urban community, and,
- 2) equip and encourage people to take advantage of opportunities for further education and training.

The secondary purpose of the plant is to produce numerous items used by the Parks Branch previously purchased by tender.

The trainees are trained in sheet metal work, welding, carpentry, painting and design, to achieve the primary objective. Approximately 35% of the time in training is spent in the classroom. Here, the client is taught the theory of wood work and metal work, industrial life skills, safety and basic mathematics. The remainder of the time in training (65%) is spent in production of the finished materials. All trainees are evaluated every three months on general aspects of skills development and adaptation to the urban/industrial environment. Also, practical tests are conducted and include the creation of a product from the blueprints to the finished product.

The secondary objective is achieved through the production of wire baskets, garbage can stands, fire rings, picnic tables,

picnic stoves, barbeque pedestals, signs and other park furniture.

Construction of the plant started in September, 1968 and was completed by May, 1969. The first segment (expansion was to follow) was built under the F.R.E.D. plans as a Training-in-Industry project. The total cost of \$286,285 was cost-shared 75%/25% with the Federal Government, under the F.R.E.D. Agreement, supplying 75% of the costs and the Provincial Government paying the remaining 25%. Ten trainees considered as "high risk," that is, chronically unemployed people similar to those of the group being considered here, worked on plant construction.

The physical plant is the responsibility of Tourism, Recreation and Cultural Affairs. All materials needed for production are supplied by this department and in return it receives the finished product. There is no exchange of monies but simply a transfer. Under the F.R.E.D. Agreement, trainees are financed for one year. Therefore, the Parks Branch is responsible for the salary of those men who graduate to become permanent employees of the plant. The training allowances are provided under the F.R.E.D. Manpower Corps Program administered by the Manpower Corps Section of the Department of Agriculture. The management salaries and training allowances are cost-shared under the program with the Federal Government paying 90% and the

Provincial Government paying the remainder of the costs. Annual operating costs are approximately \$240,000 and \$125,000 to \$140,000 of this amount is paid in the form of training allowances. Up to 30 trainees can be accommodated at any one time. During the time span of this study (June, 1969 to June, 1971), 55 trainees have trained at the plant.

Table 1

PROGRAM COSTS

Capital Costs for Original Plant-----	\$286,285
Expansion Costs (1973)*-----	\$200,000
Annual Operating Costs (1969-1971)-----	<u>\$240,000</u>
TOTAL COST-----	\$726,285

The plant is staffed by four professionals. There is one co-ordinator who is qualified as a Journeyman and has Vocational Teacher Training. The co-ordinator is in charge of training and production. The one counsellor is in charge of the human aspects and housing. This position is staffed by a person with extensive experience in labour relations. Two instructors work in the plant and they are qualified Journeymen with extensive experience. There

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\*The operating costs include trainees salaries (maximum \$140,000/year for 30 trainees), salaries for 4 professionals and 2 clerical staff and various other office expenditures. Program administration costs are excluded as they are in a separate program and budget. The cost of materials is covered by the Department of Tourism, Recreation and Cultural Affairs.

are also two clerical staff in the office. Both secretaries are considered as trainees in the office environment and both are native people.

During the fiscal year 1970/71, 25 housing units were built to accommodate married trainees and their families. Construction was by the Manitoba Housing and Renewal Corporation, the Department of Indian Affairs and the Department of Health and Social Development. The rental payment is adjusted to income. Families reside in the homes while the family head trains at the plant. This overcomes a problem of lack of housing for families that caused high dropout rates among married trainees.

Expansion since 1973 allows the plant to accommodate 30 trainees and 20 full time employees. The latter positions allow retention of trainees who might otherwise become unemployed after training. This expansion also allows an increased number of varied products for the Parks Branch.<sup>3</sup>

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<sup>3</sup>The data used for the description of the Selkirk plant was taken from the files compiled on the operations of the plant and the correspondence that was made concerning the plant (copy of Mr. E. Somers and Mr. W. Blackburn).

## RESEARCH OBJECTIVES

The major objective of this report is to construct a mechanism to measure the effects of the program on the clients involved and to use this mechanism for analysis of the data. The specific research objectives are to:

- 1) determine the impact of the in-plant training, both academic and vocational, on the client in terms of increased earnings, employability and standard of living,
- 2) establish the relationship between the increased earning power of the client and his standard of living,
- 3) determine the impact, where possible, of the counselling services on both the client and the family in terms of adaptability to an urban setting,
- 4) determine the reduced costs, if any, to the public in terms of a decrease in welfare and unemployment insurance payments,



- 5) attempt to identify those aspects of the training program and counselling program that may be improved upon, so that steps may be taken to adjust to these needs,
- 6) determine the employer's reaction, where possible, to the program, and
- 7) establish an information base and methodology that may be used for further research of manpower services of this nature.

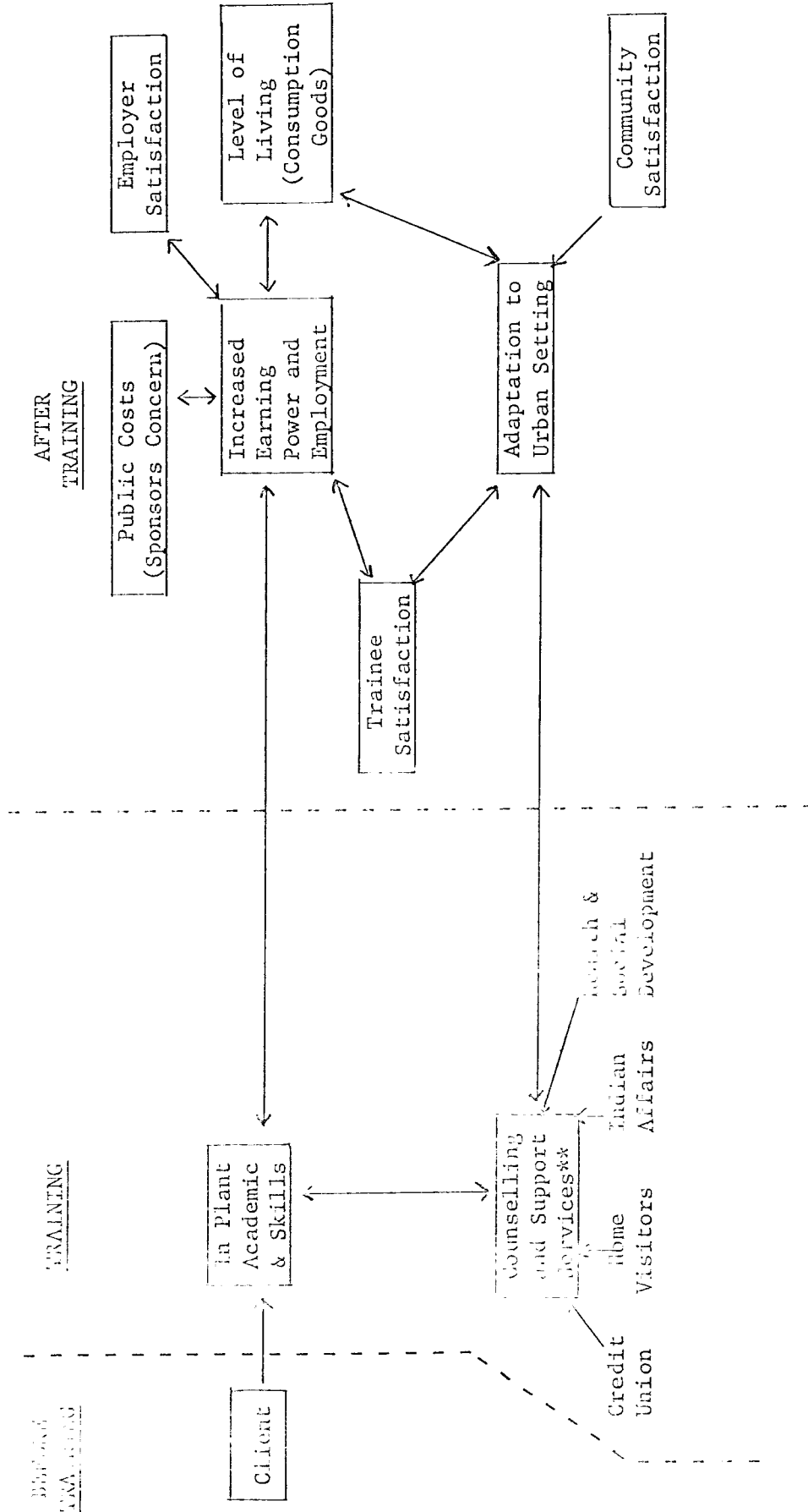
#### METHODOLOGY

To obtain the data needed for analysis, an approach similar to that of Sewell's was taken.<sup>4</sup> Due to the longitudinal nature of the program, that is, spread over time and on-going, a "before and after" approach was used for evaluation. The client was evaluated for the time before the training period began and for the time that has elapsed since the training period ended. This enabled a comparison to be made on the client.

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<sup>4</sup>Sewell, D. O., "Training the Poor," Industrial Development Centre, Queen's University: Kingston, Ontario (1971).

FLOW CHART FOR ANALYSIS OF TRAINING BENEFITS\*



\* Benefits are to be compared to benefit levels for individuals who do not receive training.

\*\* Counselling and support services are also received after training.

Figure 1

The base period, or the "before training" period, consists of one year prior to the training period. The service period relates to the time that the client spends in the program. The exposure period refers to the time period that commences when the client leaves the program and ends when the interview takes place. This exposure period was broken down into successive twelve-month fiscal periods so as to be consistent with the base period. These are recognized as  $P_1$ ,  $P_2$  and  $P_3$ , as there are a maximum of three of these fiscal periods per client.

The data were collected for all time periods with the use of a questionnaire and personal contact with the clients selected. The clients to be interviewed were those men who had enrolled in the program and had left the plant between the dates June, 1969 and June, 1971. During this time period, 55 clients were eligible for interviewing under this definition. It was intended to interview all clients but due to difficulties in locating many of them, only 24 were contacted and interviewed.

In the "economic section" of the questionnaire, the same questions were asked of the base, service and exposure periods. These included a description of work and non-work activity, hours worked per week and the length of time period. Income from all other sources was also noted so as to distinguish income from

employment and income from other sources. Other related questions were also interdispersed in this section so as to obtain other supporting and relevant data (see Appendix A).

The next section of the questionnaire involves the skills and academic aspects taught to the clients (Appendix A). The questions asked attempted to obtain information as to 1) why the client enrolled in the program; 2) whether or not the program helped him and how; and 3) whether or not he felt that the classroom time be increased or decreased. Information regarding the family situation of the client was gathered in this section also. This included the social structure and the mobility of the family.

The third section provides data for the measurement of the standard of living. All questions in this section were asked in reference to two time periods - before training and at the time of the interview. Questions of a subjective nature were included to establish a correlation between the feelings of the client and the actual interpretation of the data.

The next section deals with the client's feelings towards the counselling services and the community satisfaction expressed by the client's family.

The final major section deals with trainee satisfaction. Clients were asked questions about working conditions, salary, supervision, community satisfaction, standard of living and the client's confidence in his work situation. These questions not only provide information for evaluation of trainee satisfaction but also supplied data to substantiate data previously obtained throughout the questionnaire.

After the collection of data, the methodology attempts to transfer the data to obtain a "total effect" for each specific section. The sections include total income, housing, material possessions and trainee satisfaction.

Every client interviewed was evaluated for each of the above specific sections. It was a positive effect (+), no effect (0), or a negative effect (-). A symbol was given for each client for each specific section. The final table of results (see Table 5) scores and combines the symbols to illustrate the total effect for the individual client. One point was scored for each positive effect symbol, zero points for the no effect symbol and one point was subtracted for each negative effect symbol. The total score for each client indicates whether there has been a positive effect, no effect or a negative effect from the program of training.

### POLICY IMPLICATIONS

The rationale of the research report concerns the usefulness of this information to the Manpower Corps Section of the Department of Agriculture, Government of Manitoba. By calculating the increased earning power of the clients and their present standard of living, one will be able to evaluate the program as to its success or lack thereof. This was the primary concern of the agency involved as the Manpower Corps Section is responsible for the development of manpower services and programs. The collected information, when analyzed, should reveal the weak points and the strong points of the program. The research report will strive to identify any problems and by identifying these, it is hoped that improvements can be made to further upgrade the program.

In addition to providing information about this particular program at the Selkirk plant, the report will try to establish a methodology that will supply a substantial input for future evaluations of this program and others similar to it.

## CHAPTER II

### EVALUATION OF ANTIPOVERTY PROGRAMS

#### THE APPROACH

There has been a marked emphasis on expenditures for vocational training and education in the past number of years. These social programs have continued with the support of the public who believe that this "investment in human capital" leads to benefits to society as a whole as well as to the private benefits captured by the individuals.

Governments, be they Federal, Provincial or Municipal, all recognize the problem that poverty creates in society. It is understood that poverty can be alleviated in many cases if the chronically unemployed can be made part of the work force. One method of achieving this objective is through retraining and on-the-job training programs such as that program at the Selkirk plant. That is, such programs are aimed at individual, unemployed people. Therefore the evaluation of such programs should be in terms of their own objectives - in this instance the two primary objectives previously stated in Chapter I.

It would then follow that to measure the effectiveness of the Selkirk plant, in terms of its own objectives, one must be able to measure the benefits that would accrue to individual trainees. This, then, was the backbone of the approach taken for this study.

The methodology used to implement this approach, as described in Chapter I, was constructed with the aid of a number of pieces of literature. The most influential was a research bulletin (72-1) by James A. MacMillan, Leo A. Bernat and John L. Flagler titled "Benefits and Costs of Manpower Services in the Interlake Rural Development Area." This study utilized a "before and after" approach for the measurement of individual benefits.<sup>5</sup> The approach was integrated into many sections of the questionnaire used for data collection.

The research bulletin was also used in the construction of the questionnaire, especially that section concerned with the economic data. The use of the base period, service period and exposure period was taken from this bulletin and slightly modified

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<sup>5</sup> MacMillan, J. A.; Bernat, L. A. and Flagler, J. J., "Benefits and Costs of Manpower Services in the Interlake Rural Development Area," Department of Agricultural Economics: University of Manitoba (72-1).



to serve the needs of this particular study. This enabled the use of a particular method of analysis of the economic data, that was also developed by MacMillan, Bernat and Flagler, namely the simple deflation of benefits.<sup>6</sup>

This approach of using data concerning the client before and after training was also used by Sewell.<sup>7</sup> He applies this approach, as does Barsby,<sup>8</sup> to obtain data for use in a cost-benefit analysis of manpower programs.

Unlike the work of Sewell, Barsby and MacMillan, Bernat and Flagler, this study does not strive for a benefit-cost ratio. The author feels that such an approach may be misleading and, because of the philosophy of changing people from poor to non-poor "through their own efforts," a benefit-cost analysis should not be used for evaluation in this particular study.

A benefit-cost ratio measures the economic efficiency of a particular program but does not necessarily evaluate the program on its original objectives. Therefore, the effectiveness

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<sup>6</sup> MacMillan, J. A.; Bernat, L. A. and Flagler, J. J., op. cit., p. 70.

<sup>7</sup> Sewell, D. O., op. cit.

<sup>8</sup> Barsby, S. L., "Cost-Benefit Analysis and Manpower Programs," Lexington Books: Lexington, Massachusetts (1972).

of the program, from the government's point of view, is not measured. This is extremely important as such social programs are not designed with the principal objective of economic efficiency but with the primary objective of helping low-income individuals.

A benefit-cost analysis, however, can compare this particular program to other programs in terms of economic efficiency. This may be a desirable tool for soliciting specific programs. But this can only be used to select programs for an area if the programs in question all have the potential to satisfy the needs of the area in question. If some of these projects cannot fulfill this requirement, then the comparison of these projects are invalid to the decision maker. Therefore a particular project may be more economically attractive but may not meet the requirements of the people that the program is aimed at. It should also be noted that this aspect is irrelevant in this case as the Selkirk plant has been established and was operational at the time that this study began.

The resulting ratio from a benefit-cost analysis also has a disadvantage with the actual benefits and costs that make up the ratio. This ratio may be misleading and may very well underestimate the actual benefits to the individuals. This

is based on the argument that the marginal value of the benefits gained by the trainee are greater than the marginal value of the costs to the taxpayer. That is, the social gain by the trainee may be very important and significant to him but the actual costs may have very little marginal value to the individual taxpayer.

By approaching antipoverty programs through the evaluation of benefits to the individual clients, one is able to overcome the previously mentioned difficulties. The program can be evaluated in terms of its own objectives and allows decision makers to alter the program on authoritative evidence. Benefits do not have to be compared to costs and, therefore, one will not encounter the risk of underestimating benefits. Also, by using this method, the officials concerned have a greater opportunity to choose the proper program for the needs of the clientele being served.

The remainder of the questionnaire was also modeled after that used by MacMillan, Bernat and Flagler.<sup>9</sup> Additions were made with the use of a number of articles reviewed. The most influential and relevant was an article by J. Cruickshank

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<sup>9</sup> MacMillan, J. A.; Bernat, L. A. and Flagler, J. J., op. cit., p. 140.

called the "Matrifocal Families in the Canadian North."<sup>10</sup>

Cruickshank states that;

Industrial society demands that men regulate their lives to fit their technology and this approach is not consistent with traditional cultures.<sup>11</sup>

This is most relevant to the Selkirk plant as it is involved entirely with people of "traditional cultures." One of the main objectives of the in-plant training is instilling in the client the importance and responsibility of attending work regularly and coming to work on time. This will be partially reflected by the work history of the client since the training period has ended. This analysis will reflect the success, or lack thereof, of the project to help these people establish themselves in this industrial society. Questions are directed at the family in terms of "community satisfaction" and "standard of living" in the questionnaire. The response to these questions may reflect the success or failure of the counselling services provided with

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<sup>10</sup> Cruickshank, J., "The Matrifocal Family in the Canadian North," in The Canadian Family by K. Ishwaren Ed., Holt, Rinehart and Winston: Toronto (1971).

<sup>11</sup> Cruickshank, J., op. cit., p. 42.

the retraining program. Cruickshank states that;

Women have access to a communications system less accessible to men: nurses, social workers, teachers, ministers, etc., and become a major point of intersection between the two cultures.<sup>12</sup>

This illustrates the importance of counselling to the success of the individual's family and therefore the program.

#### LIMITATIONS OF THE STUDY

The approach used in this study does have a number of limitations. These points of contention are scattered throughout the methodology but are found mainly in the economic section. The limitations of the study are as follows.

##### 1. Interview Response

As was previously mentioned, only 55 clients qualified for interviewing under the definition stated in the methodology. Of these 55 clients, only 24 were contacted and interviewed.

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<sup>12</sup>Cruickshank, J., op. cit., p. 43.

This constituted only 43.6% of the total population. Due to this small number of interviews, the data, in some areas, may not be representative of the total population. A Chi-Square test was applied to determine if there was a relationship between the group interviewed and the total group. This test indicated that the group interviewed was representative of the total group under the variables used (see Appendix D). The difficulty encountered in locating many of the clients, especially the single men, was responsible for the low number of interviews.

## 2. Control Group

Because of the importance of a control group for the evaluation of data, it was decided that one should be used in this study. The control group used was the non-agricultural norm group established by MacMillan, Bernat and Flagler.<sup>13</sup> This norm group, selected at random from the Interlake area, consisted of 51% Indian and Metis people. But limitations were evident with the use of this group.

a) Significant differences occur between the

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<sup>13</sup> MacMillan, J. A., Bernat, L. A. and Flagler, J. J., op. cit., p. 10.

norm group and the service group in the areas of age and education levels, as can be seen in Chapter IV.

- b) The norm group only had average weekly wages and average employment time for one year after the training period ( $P_1$ ). The percentage increase between this period and the base period was determined and applied to obtain figures for the second and third fiscal periods after the training period -  $P_2$  and  $P_3$  (see Appendix B).

### 3. Deflation of Benefits

There are a definite number of facts that one should be aware of when studying the results of the income effects.

- a) The starting dates for the training program differed for many clients. Therefore, the base period for these clients does not cover the same dates. These dates differ from those of the norm group and when calculations are made for these clients, all dollar values are

only approximately the same. That is,  
all dollar values are only approximately  
of a 1968 level.

- b) Because the clients started into the program at various times, they would therefore leave at different times. In some cases there were clients that started the same time but left at different times. Therefore the first, second and third fiscal periods ( $P_1$ ,  $P_2$ ,  $P_3$ ) do not have the same starting and finishing dates. This should be remembered when comparing results of individual clients.

Those clients that left the program just prior to June, 1971 only have two fiscal periods -  $P_1$  and  $P_2$ . This should also be noted when comparing clients because the time frame for the  $P_1$  for these clients is being compared to the time frame for the  $P_2$  for others. Those clients who left the program at this time were not shifted to  $P_2$  and  $P_3$  for comparison because it was still their first year and second year in the labour force and it



was felt that they should be evaluated as such.  
The clients are noted on Table 2.

- c) There was a lack of data for several clients in their base period but these same clients had data available for the exposure period. A limitation occurs when one assumes that these clients would have experienced the group average for wages and employment in the base period (see Appendix C). It was felt that this was justified due to the small number of clients.

#### 4. Counselling Services

The lack of data in this area leaves an important aspect of the program untouched and unevaluated. Clients readily responded to the relevant questions but very few clients had used these services. The only services that were used to any extent were those available through the head counsellor at the plant and the instructors. Only six families used the home visitor program and these families all registered a positive attitude towards the services.

5. Social Assistance

Attempts were made to collect information in this area from the clients. The clients seemed willing to answer questions pertaining to this section but they had difficulty in remembering amounts and the actual time they received social assistance. Therefore, sufficient information was not available to evaluate the effects of the training program on this area of importance.

### CHAPTER III

#### METHOD OF ANALYSIS

##### ECONOMIC

The section dealing with the economic impact on the client is analyzed using specific aspects of an economic model formulated and developed by MacMillan, Bernat and Flagler.<sup>14</sup> This model uses a control group established from people in the Interlake area. The random sample for the norm group was drawn from the list of households used for the 1968 survey of the Interlake.<sup>15</sup> The Indian component was randomly sampled from the labour force lists obtained from the Department of Indian Affairs. These were registered Indians residing on reserves, and between the ages of 16 and 44, who had some working experience.<sup>16</sup> This non-agricultural norm group established by MacMillan, Bernat and Flagler is composed of 51% Indian and Metis people.<sup>17</sup>

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<sup>14</sup> MacMillan, J. A., Bernat, L. A. and Flagler, J. J., op. cit.

<sup>15</sup> Framingham, C. F., MacMillan, J. A. and Sandell, D. T., The Interlake Fact, Hignell Printing Co.: Winnipeg (1970).

<sup>16</sup> MacMillan, J. A., Bernat, L. A., and Flagler, J. J., op. cit. p. 10.

<sup>17</sup> MacMillan, J. A., Bernat, L. A. and Flagler, J. J., op. cit. p. 29.

In this model, it is assumed that if the clients had not participated in the program they would have received the average rate of earnings and employment increases reported by the norm group. It is also assumed that the differential effect between the service and norm groups due to variations in age, education and other hypothesized determinents of benefits is omitted. In the model, the average growth in earnings and employment reported by the norm group is used to deflate the earnings and employment benefits received by the service group. These benefits, both employment and earnings, are also adjusted to 1968 units, the base period year. The equation form of the model is as follows:

$$BE = \left[ P_1 E^S / (P_1 E^N / XE^N) \right] - XE^S$$

$$BY = \left[ P_1 Y^S / (P_1 Y^N / XY^N) \right] - XY^S$$

Where:

BE = net employment benefits for service group

BY = net earning benefits for service group

And:

$P_1 E^S$  = employment in weeks for first 12-month period of  
exposure for service group

$P_1 E^n$  = employment in weeks for first 12-month period of  
exposure for norm group

$XE^n$  = employment in weeks for base period of the norm  
group

$XE^S$  = employment in weeks for base period of the service  
group

$P_1 Y^S$  = earnings per week in first 12-month period of  
exposure for service group

$P_1 Y^n$  = earnings per week in first 12-month period of  
exposure for norm group

$XY^n$  = earnings per week for base period for the norm  
group

$XY^S$  = earnings per week for base period for the service  
group

The total benefits for an individual due to the employment and earnings effects of this program is the sum of two components.

1. The first component is  $B^Y$  - the deflated increase in earnings per week for the first 12-month period of the exposure period, multiplied by the number of weeks in the base period, and therefore  $B^Y = BY(XE^S)$ , where,  $BY$  = deflated net increase in earnings per week.
  
2. The second component is  $B^E$  and is the result of the deflated income in weeks employed, multiplied at the new level of deflated weekly earnings, and therefore  $B^E = BE \cdot P_1 Y^S / (P_1 Y^n / XY^n)$ , where,  $BE$  = the deflated increase in weeks employed and  $P_1 Y^S / (P_1 Y^n / XY^n)$  = the deflated weekly earnings.

The total income effect between the base period and the first 12-month period of the exposure period is the sum of the two components. That is,  $B^T = B^Y + B^E$ .

The same model was used for the second and third 12-month periods of the exposure period for each individual, submitting the symbols  $P_2$  and  $P_3$ . Information was not collected for the norm group for these periods. Therefore, it was assumed that the natural increase of employment and earnings that occurred for the norm group, from the base period to  $P_1$  of the exposure period, would continue on for  $P_2$  and  $P_3$  at an identical rate of increase. The values for the components of the equations are found in Appendix B.

It was then assumed that if the client had a positive number for all three periods, or a majority of the three, the indicator would be positive (+). If all three periods had negative results, or the majority of the three were negative, the indicator would be negative (-). Table 2 illustrates the results of the model and lists the indicators for each individual as per above.

#### HOUSING

On page 9 of the questionnaire (Appendix A), questions were asked concerning the standard of housing before and after the training period. So as to evaluate whether or not the client

recorded an increase or decrease in housing standards, all five questions asked were evaluated in relation to each other. The following assumptions were made:

- a) A brick house is of better quality than a frame house and a frame house is of better quality than a log house. This assumption is made on the fact that there is an increase in technology in building as one goes higher on the scale, and as well there is technological control over the building materials. There is also a higher level of social status as one moves higher on the scale.
- b) An increase in the number of rooms and number of separate bedrooms indicates an increase in housing standards. The reverse indicates a negative effect.
- c) The age of the house will indicate an increase (younger house) or a decrease (older house) in standard of housing only if all other variables remain constant, including the subjective variable mentioned on the following page.



The final question that deals with housing standards is strictly subjective. The results of this question can be used to correlate data obtained in the first four questions on housing and indicates the client's feelings as to the condition of the house. The results from this subjective question will only be used to determine the standard of housing in cases where it has been the only indicator to show a change. These individual cases that arise will be dealt with separately in the section on results.

#### MATERIAL POSSESSIONS

This section is analyzed on a "simple count" basis. The number of articles in possession before training are compared to the number of articles in possession after training. If the count is higher after training (at the time of the interview) than before training, then the indicator will be positive. The indicator will be negative if the count is lower.

#### TRAINEE SATISFACTION

The questions asked in this section of the questionnaire were graded on a 5 point scale. The clients were asked to respond to the questions by indicating if they would:

1. strongly agree (1 point)
2. agree (2 points)
3. be undecided (3 points)
4. disagree (4 points)
5. strongly disagree (5 points)

Because questions 4 and 9 were asked in a terminology that indicates dissatisfaction, they are scored in reverse order. This will eliminate an oversight that occurred in the development of the questionnaire. Also, question 10 was scored on a "yes-no" basis and is not included in the calculations.

Therefore, the lowest possible score, according to this scheme, would be 22 points, indicating a high level of satisfaction. The highest score possible, indicating the highest level of dissatisfaction, would be 110 points. These result through the use of 22 questions. The difference between these levels is 88 points and the mid-point of this is 44 points. This, coupled with the lowest possible score of 22, results in a mid-point score of 66 points. This level of 66 points is taken as the point at which

the client is neither dissatisfied nor satisfied, but is indifferent. Because questions 11, 16, 20 and 21 had very few respondents, a margin of + or - 4 is given to the mid-point of 66. Therefore, to score a positive indicator, the client's score must be lower than 62; to score a negative indicator, the score must be above 70. Those clients that score between 62 and 70 will be given the "no effect" indicator of "0."

#### TOTAL EFFECT

The number indicating the total effect was derived from the combination of the four previous major sections. This final number indicates if there was a negative effect (negative number), no effect (zero) or a positive effect (positive number). The degree of effect is indicated by the size of the number. The notation N/A (not applicable) had no influence on the outcome of the final indicating number as no particular section was weighted as to importance or degree of effect. If a particular section was denoted as being N/A, it was deleted in construction of the final indicating number.

#### CLIENT STATUS UPON LEAVING PROGRAM

The supplementary information was gathered with the use

of the Manpower Corps files and the questionnaire. The client was classified as being "complete" or "non-complete." The trainee was considered "complete" if he stayed at the plant until the program for him was completed. Included in the completions were those who went on to up-grading. These were noted in the results. Clients were considered as non-complete if they withdrew, or were discharged, before the program for them was finished. The non-completions were broken down into these two categories and noted as such in the results.

#### EMPLOYMENT HISTORY

The information for this important portion of the results was also taken from the Manpower Corps files and the questionnaire. Data were collected on each client in terms of employment before training and after training. The calculation of the number of trainees employed before training and after training gives an indication of their employment history and the effects of the training on this aspect.

Some trainees were working immediately before training and the length of this employment was noted also. The length of time of non-employment was also noted for those clients who were not employed immediately after training.

#### FAMILY SITUATION

Data were collected with the questionnaire for this section. Statistics were then compiled with a table illustrating those clients that were married and/or received encouragement towards the program from their wife, parents or other members of the family. The final indicators were also included in the table for comparison to this data.

#### CLIENT'S EVALUATION

The evaluation of the program from this approach rests entirely on the data obtained from the questionnaire. The questions asked (listed in Chapter IV) were mainly of a subjective nature. This gave the trainee ample opportunity to express his views on the program. The data obtained from the answers were grouped together and documented in text form in Chapter IV.

## CHAPTER IV

### RESULTS

This chapter deals entirely with the data obtained from the questionnaire and the results of this data. Before dealing with the four major sections as described in Chapter III, group characteristics of the 24 clients and the norm group are compared for age and education. The marital status for the interview group of 24 is also shown.

Following the results of the four major sections, the reader will find results pertinent to client status upon leaving the program, employment history, family situation and the client's personal evaluation.

The first limitation as stated in Chapter II was concerned about the statistical validity of the sample. The Chi-square analysis found in Appendix D rejects the null hypothesis that assumes that there is no relationship between the 24 clients interviewed and the total group as a whole. That is, the 24 clients are representative of the total group. (See Appendix D)

### GROUP CHARACTERISTICS

Of the 24 clients interviewed out of a possible 55, the following characteristics are evident.

1. <u>Age</u>	<u>21 - 30</u> <u>(%)</u>	<u>31 - 40</u> <u>(%)</u>	<u>41 - 50</u> <u>(%)</u>	<u>Over 50</u> <u>(%)</u>	<u>Average Age</u> <u>(Mean)</u>
Service Group	75.0	20.0	4.2	0.0	26.9
Norm Group	14.0	28.0	26.0	21.0	39.0

2. <u>Education</u>	<u>0 - 4</u> <u>(%)</u>	<u>5 - 7</u> <u>(%)</u>	<u>8 - 10</u> <u>(%)</u>	<u>Over 10</u> <u>(%)</u>	<u>Average Grade</u> <u>(Mean)</u>
Service Group	8.3	50.0	41.6	0.0	6.8
Norm Group	0.0	37.0	35.0	16.0	7.6

### 3. Marital Status

Of the 24 clients interviewed, 16 (66.6%) were single men and 8 (33.3%) were married. The average number of dependents for the married men at the time of the interviewing was 6.6, the highest number being 10 and the lowest number being 2.

### ECONOMIC

By using the model described in the previous chapter (Method of Analysis), the following results were forthcoming. The components used in calculations can be found in Appendix B.

Clients 5, 8 and 21 were not included due to insufficient data in specific areas. Clients 6 and 7 had insufficient data for the base period. Clients 10, 13 and 15 were attending high school in the base period and clients 11 and 16 were unemployed in the base period. But these seven clients had employment records and available data for the exposure period. Therefore, to evaluate this data, the average income levels and average employment levels were calculated for the group of clients that had data available in the base period. It was assumed that if clients 6, 7, 10, 11, 13, 15 and 16 had worked in the base period, or data was available for that period, they would have contributed to the group average. These components were then applied to the equations and the clients were then evaluated.

According to the method of analysis, 71.4% of the clients registered a positive income effect (15 of 21) and 28.5% were recorded as having a negative effect which was less than that of the control group. The resulting figure for each period for each individual



represents the number of dollars, in base year units, of increase or decrease, over or under the norm group. (See Table 2)

### HOUSING

Table 3 illustrates the results from the questions on housing for the individual clients. A positive indicator (+) or a negative indicator (-) under the sub-headings illustrates an increase or decrease respectively in that specific area. If there has been no change, the indicator is a "0". The final indicator as to an overall increase or decrease in standards is found in the last column of the table.

Of the 24 clients, 3 of them were not eligible. Clients 3, 6 and 10 did not qualify for evaluation as they stated that they did not contribute anything to the family situation. Clients 15 and 16 were living in a home and in a situation at the time of the interview but were living at home during the training period. Both clients strongly insisted that their housing conditions had improved since training. Therefore, on this basis, these clients qualify for an increase in housing standards and therefore, a positive effect.

Of the 21 remaining clients, the following breakdown

Table 2

INDIVIDUAL INCOME EFFECTS AND INDICATORS

<u>Clients</u>	<u>Indicators</u>	<u>P<sub>1</sub></u>		
		<u>B<sup>T</sup></u>	<u>B<sup>Y</sup></u>	<u>B<sup>E</sup></u>
1	+	716.16	812.76	-96.60
2	-	92.48	44.20	48.28
3	+	423.10	102.24	320.86
4	-	-252.17	-287.56	35.39
6	+	239.98	336.46	-96.48
7	-	-957.56	944.38	-1,901.94
9	-	-2,453.51	168.88	-2,622.39
10	-	-2,154.88	-261.14	-1,893.74
11	+	2,364.21	776.33	1,587.88
12	+	UNEMPLOYED		
13	+	2,587.42	927.33	1,660.09
14	+	2,972.34	1,037.00	1,935.34
15	+	-1,234.13	-623.91	-610.22
16	-	-1,597.98	-463.67	-1,134.31
17	+	5,057.48	984.48	4,073.00
18	+	1,497.86	-99.31	1,597.17
19	+	-195.17	-379.63	184.46
20	+	2,040.78	867.74	1,173.04
22	+	555.83	-415.34	971.17
23	+	1,743.50	381.16	1,362.34
24	+	2,057.78	49.20	2,008.58

P<sub>1</sub> - First 12-month fiscal period

B<sup>T</sup> - Total income effect

B<sup>Y</sup> - Deflated increase in earnings per week

B<sup>E</sup> - Deflated net increase in earnings per week multiplied at the new level of deflated weekly earnings

Table 2  
(Cont'd.)

INDIVIDUAL INCOME EFFECTS AND INDICATORS

<u>Clients</u>	<u>Indicators</u>	<u>P<sub>2</sub></u>		
		<u>B<sup>T</sup></u>	<u>B<sup>Y</sup></u>	<u>B<sup>E</sup></u>
1	+	396.39	483.60	-87.21
2	-	-168.59	-214.24	45.65
3	+	3,573.18	309.76	3,263.42
4	-	-517.19	-550.16	32.97
6	+	1,686.76	279.44	1,407.32
7	-	UNEMPLOYED		
9	-	47.92	11.41	36.51
10	-	-1,039.18	627.79	-1,666.97
11	+	2,323.82	701.56	1,622.26
12	+	1,050.06	1,006.20	43.86
13	+	3,493.45	1,476.56	2,016.89
14	+	2,436.43	690.00	1,746.43
15	+	754.21	615.26	138.95
16	-	-124.12	-920.46	796.34
17	+	6,934.62	1,556.32	5,378.30
18	+	669.48	32.00	667.48
19	+	1,272.39	1,017.50	254.89
20	+	3,787.41	2,198.00	1,589.41
22	+	213.36	-560.88	774.24
23	+	1,929.75	408.98	1,520.77
24	+	1,200.11	-375.36	1,575.47

P<sub>2</sub> - Second 12-month fiscal period

B<sup>T</sup> - Total income effect

B<sup>Y</sup> - Deflated increase in earnings per week

B<sup>E</sup> - Deflated net increase in earnings per week multiplied at the new level of deflated weekly earnings

Table 2  
(Cont'd.)

INDIVIDUAL INCOME EFFECTS AND INDICATORS

<u>Clients</u>	<u>Indicators</u>	<u>P<sub>3</sub></u>		
		<u>B<sup>T</sup></u>	<u>B<sup>Y</sup></u>	<u>B<sup>E</sup></u>
1	+	773.80	707.20	66.60
2	-	-400.73	-488.28	87.55
3	+	N/A	N/A	N/A
4	-		UNEMPLOYED	
6	+	380.65	-259.06	639.71
7	-	-2,525.12	-729.19	-1,795.93
9	-	-1,028.03	-137.80	-890.23
10	-		UNEMPLOYED	
11	+	1,649.83	775.47	874.36
12	+	1,272.30	1,179.36	92.94
13	+	3,810.04	2,536.61	1,273.43
14	+	2,328.37	588.20	1,740.17
15	+	2,688.23	1,621.88	1,066.35
16	-	1,918.85	994.75	924.10
17	+	3,479.85	515.36	2,964.49
18	+		UNEMPLOYED	
19	+	1,727.10	1,394.50	332.60
20	+	N/A	N/A	N/A
22	+	-706.34	-889.58	183.24
23	+	N/A	N/A	N/A
24	+	N/A	N/A	N/A

P<sub>3</sub> - Third 12-month fiscal period

B<sup>T</sup> - Total income effect

B<sup>Y</sup> - Deflated increase in earnings per week

B<sup>E</sup> - Deflated net increase in earnings per week multiplied at the new level of deflated weekly earnings

N/A - has not been in the labour force for 3 fiscal periods

Table 3

HOUSING CHARACTERISTICS

<u>Client</u>	<u>Type of House (a)</u>	<u># of Rooms</u>	<u># Separate Bedrooms</u>	<u>Age of House (b)</u>	<u>Description By Client</u>	<u>Final Indicator</u>
1	0	0	0	0	0	0
2	0	0	0	0	0	0
4	+	+	+	N/A	0	+
5	+	+	+	N/A	0	+
7	0	0	0	0	0	0
8	0	0	0	0	0	0
9	0	+	+	N/A	+	+
11	0	0	0	0	0	0
12	0	0	0	0	0	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	(c)					+
16	(c)					+
17	0	+	+	N/A	+	+
18	0	0	0	N/A	+	+
19	0	0	0	0	0	0
20	0	-	-	N/A	-	-
21	0	0	0	0	0	0
22	0	+	+	N/A	+	+
23	0	+	+	N/A	+	+
24	0	+	0	N/A	+	+

(a) "Type" refers to log, frame or brick

(b) The N/A is recorded in accordance to the assumption taken in the "Method of Analysis"

(c) In accordance with written text, see page 40

occurred:

- |   |       |
|---|-------|
| 1. Increase in standard of housing,       | 47.6% |
| 2. Standard of housing remained constant, | 47.6% |
| 3. Decrease in standard of housing.       | 4.7%  |

#### MATERIAL POSSESSIONS

As was stated, a "simple count" method was used to evaluate the individual clients. This type of evaluation not only supplies an indicator for the individual but also indicates the relative difference in the level of "material possessions" between the "before training" period and the "after training" period. Of the 23 eligible clients, 78.2% had an increase in material possessions and therefore a positive effect. There was no change recorded for 17.4% and a negative effect was registered for 4.3%. A negative effect refers to a decrease in material possessions. Table 4 on the following page tabulates the results of this section.

Table 4

MATERIAL POSSESSIONS

<u>Client</u>	<u>No. of Articles Before Training</u>	<u>No. of Articles After Training</u>	<u>Indicator</u>
1	8	9	+
2	9	12	+
3	6	12	+
4	6	9	+
5	6	8	+
6	15	14	-
7	9	9	0
8	4	4	0
9	7	7	0
10	N/A - no data available		
11	8	9	+
12	8	8	0
13	8	10	+
14	6	7	+
15	(a)*		
16	(a)*		
17	7	14	+
18	4	9	+
19	11	14	+
20	5	10	+
21	1	5	+
22	3	11	+
23	4	9	+
24	7	12	+

\* (a) These clients now live in a room and board situation but insisted that they are now better off in terms of material possessions. They lived with parents during the training period.

### TRAINEE SATISFACTION

The data collected for this section was analyzed as per the method of analysis in Chapter II. The results from these 22 questions indicate that of the 24 clients, 25% registered a positive effect (satisfaction), 16.6% recorded a negative effect (dissatisfaction), and 58.33% showed "no change."

Also, the results from question number 10 in this section demonstrate that 46% of the clients considered their job as permanent and 25% stated that their job was temporary. At the time of the interview, 29% were unemployed for an average time of 42.86 weeks with the range being 4 weeks to 88 weeks.

The results of these four major sections are brought together to establish a total score for each client. This total score is found on page 48, Table 5-1. The distribution of this data is found on Table 5-2. Of the 24 clients, 8.3% (2 of 24) scored +4, 20.8% (5 of 24) scored +3, 33.3% (8 of 24) scored +2, 4.2% (1 of 24) scored +1, -1 and -2 and 25% (6 of 24) scored 0.

Table 5-3 has a further distribution of the total effect. Of the 24 clients, 29.1% (7 of 24) had a "high" score, 37.5% (9 of



Table 5-1

TOTAL EFFECTS

<u>Client</u>	<u>Income Effect</u>	<u>Housing Standards</u>	<u>Material Possessions</u>	<u>Trainee Satisfaction</u>	<u>Final Indicator</u>
1	+	0	+	0	+2
2	-	0	+	0	0
3	+	N/A	+	0	+2
4	-	+	+	+	+2
5	N/A	+	+	0	+2
6	+	N/A	-	0	0
7	-	0	0	0	-1
8	N/A	0	0	0	0
9	-	+	0	0	0
10	-	N/A	N/A	-	-2
11	+	0	+	0	+2
12	+	0	0	-	0
13	+	0	+	0	+2
14	+	0	+	-	+1
15	+	+	+	0	+3
16	-	+	+	-	0
17	+	+	+	+	+4
18	+	+	+	0	+3
19	+	0	+	+	+3
20	+	-	+	+	+2
21	N/A	0	+	+	+2
22	+	+	+	0	+3
23	+	+	+	0	+3
24	+	+	+	+	+4

Table 5-2

DISTRIBUTION OF TOTAL EFFECT

<u>Total Effect Score</u>	<u>Number of Clients</u>
+4	2
+3	5
+2	8
+1	1
0	6
-1	1
-2	<u>1</u>
<u>TOTAL</u>	24

Table 5-3

DISTRIBUTION OF TOTAL EFFECT

<u>Total Effect Score</u>	<u>Number of Clients</u>
High (4,3)	7
Medium (2,1)	9
Low (0,-1)	7
Very Low (-2, -3)	<u>1</u>
<u>TOTAL</u>	24

24) had a "medium" score, 29.1% had "low" score and 4.2% (1 of 24) had a "very low" score.

Statistical tests were conducted for each major section to determine if the results were due to chance or if a real effect actually occurred (Appendix D). The results of those tests show that the number of +'s and -'s under the headings "Income Effect", "Housing Standards" and "Material Possessions", cannot be attributed to chance, but that there was a real effect on the clients. The test conducted on "Trainee Satisfaction" concluded that the +'s and -'s could have occurred by chance and therefore one cannot say if there was a real effect. Other data was also collected that is relevant to the individuals and the program itself. The following are specific areas of importance.

#### CLIENT STATUS UPON LEAVING PROGRAM

Under the definition, as was described in Chapter III, there were 12 completions and 12 non-completions, of the 25 clients interviewed. The breakdown of non-completions included 9 withdrawals, and 3 discharges (See Table 6-1). The average time spent in training for "completions" was 53 weeks and 12.7 weeks for "non-completions." Of the 12 completions, 3 clients went on to up-grading (further educational training) and of the 9 withdrawals, 3 went on to up-grading of some form.

Tables 6-2 and 6-3 illustrate the distribution of the client status rating in relation to the total score of the client.

Table 6-1

CLIENT STATUS - EMPLOYMENT HISTORY

<u>Client</u>	<u>Final Indicator</u>	<u>Completions</u>	<u>Non Completions</u>	<u>Up-Grading</u>	<u>Employment B. T.</u>	<u>Status A. T.</u>
1	+2		X <sup>*</sup>		X	
2	0		X <sup>**</sup>		X	X
3	+2	X				X
4	+2		X <sup>**</sup>		X	X
5	+2		X <sup>*</sup>			
6	0	X				X
7	-1	X				X
8	0		X <sup>*</sup>		X	X
9	0		X <sup>*</sup>		X	X
10	-2	X				X
11	+2	X		X(a)		X
12	0		X <sup>*</sup>		X	
13	+2	X		X(a)		X
14	+1	X				X
15	+3	X				X
16	0	X		X(b)		X
17	+4		X <sup>*</sup>	X(a) (b)	X	X
18	+3		X <sup>*</sup>	X(b)		X
19	+3		X <sup>*</sup>	X(a)		X
20	+2	X				X
21	+2		X <sup>**</sup>			
22	+3		X <sup>*</sup>			
23	+3	X				X
24	+4	X				X

\* - Withdrew

\*\* - Discharged

(a) - On to up-grading immediately after training

(b) - Took up-grading later in exposure period

B.T. - Employed immediately before training

A.T. - Employed immediately after training

Table 6-2

DISTRIBUTION OF TOTAL EFFECT  
CLIENT STATUS - EMPLOYMENT HISTORY

	<u>+4</u>	<u>+3</u>	<u>+2</u>	<u>+1</u>	<u>0</u>	<u>-1</u>	<u>-2</u>	<u>Total</u>
Completions	1	2	4	1	2	1	1	12
Non-Completions	1	3	4	0	4	0	0	12
Up-Grading	1	2	2	0	1	0	0	6
Employment Status:								
B. T.	1	0	2	0	4	0	0	7
A. T.	2	4	5	1	5	1	1	19

B. T. - Before Training

A. T. - After Training

Table 6-3

DISTRIBUTION OF TOTAL EFFECT  
CLIENT STATUS - EMPLOYMENT HISTORY

	<u>High</u> <u>(4,3)</u>	<u>Medium</u> <u>(2,1)</u>	<u>Low</u> <u>(0, -1)</u>	<u>Very Low</u> <u>(-2, -3)</u>
Completions	3	5	3	1
Non-Completions	4	4	4	0
Up-Grading	3	2	1	0
Employment Status:				
B. T.	1	2	4	0
A. T.	6	6	6	1

B. T. - Before Training

A. T. - After Training

#### EMPLOYMENT HISTORY

Of the 24 clients that were interviewed, 7 clients (29.1%) were employed prior to entering the program. The average length of continuous employment for these clients was 40 weeks. The remainder of the clients (70.9%) were unemployed prior to the training period (Table 6-1).

But the employment record of these same clients changed upon leaving the plant. Of the 24 individuals, 19 clients (79.2%) were employed immediately after receiving training (Table 6-1). Those trainees that went on to up-grading were considered as being employed. The average waiting period for employment for those who were not immediately employed was 22.8 weeks.

Also found on Tables 6-2 and 6-3 are a distribution of the data concerning employment history in relation to the total score for the four major sections.

#### FAMILY SITUATION

It has been considered that the family situation may reflect the success of that individual. That is, married individuals and/or those that had encouragement to enroll from their families,

seemed to have had more success after leaving the program. Clients that received encouragement and/or were married and those who did not receive encouragement are listed on Table 7-1 with the individual's final score.

Tables 7-2 and 7-3 illustrate the distribution of the clients and their final score. Fifteen of 24 clients received encouragement from their families and/or were married. Of these 15 trainees, 5 received a "high" score, 4 scored in the "medium" range and 1 received a "very low" score. Of the 9 trainees who were not married, 2 scored "high," 5 scored "medium" and 2 scored "low."

#### CLIENT'S EVALUATION

Each client was asked to evaluate the program from different approaches. The following questions were asked of each individual.

1. What sources did you use when looking for a job?
2. How has the training program affected you and your family?

Table 7-1

ENCOURAGEMENT - MARRIED STATUS

<u>Client</u>	<u>Married</u>	<u>X<sub>1</sub></u>	<u>X<sub>2</sub></u>	<u>X<sub>3</sub></u>	<u>Final Indicator</u>
* 1					+2
2	X		X		0
3			X		+2
* 4					+2
* 5					+2
6			X		0
* 7					-1
* 8					0
9			X		0
10			X	X	-2
11			X		+2
12			X	X	0
*13					+2
14	X	X			+1
*15					+3
16				X	0
17	X				+4
18	X				+3
19	X				+3
20	X				+2
*21					+2
22	X				+3
*23					+3
24	X				+4

X<sub>1</sub> - Received encouragement from wife

X<sub>2</sub> - Received encouragement from parents

X<sub>3</sub> - Received encouragement from other members of the family

\* - Did not receive encouragement



Table 7-2

DISTRIBUTION OF TOTAL EFFECT  
ENCOURAGEMENT - MARITAL STATUS

	<u>+4</u>	<u>+3</u>	<u>+2</u>	<u>+1</u>	<u>0</u>	<u>-1</u>	<u>-2</u>
<u>Encouraged</u>							
Married	0	0	0	1	1	0	0
Not Married	0	0	2	0	3	0	1
<u>Not Encouraged</u>							
Married	2	3	1	0	0	0	0
Not Married	0	2	5	0	1	1	0

Table 7-3

DISTRIBUTION OF TOTAL EFFECT  
ENCOURAGEMENT - MARITAL STATUS

	<u>High</u> <u>(4, 3)</u>	<u>Medium</u> <u>(2, 1)</u>	<u>Low</u> <u>(0, -1)</u>	<u>Very Low</u> <u>(-2, -3)</u>
<u>Encouraged</u>				
Married	0	1	1	0
Not Married	0	2	4	1
<u>Not Encouraged</u>				
Married	5	1	0	0
Not Married	2	5	2	0

3. Do you feel that the instruction given to you in the workshop and classroom was useful to you in obtaining employment?
4. Do you feel that the counselling services provided were of any use to you (and when applicable) and your family?
5. Given the circumstances that you were in before the training period began, would you enter the program again?

The results and statements that were obtained from these questions are as follows.

1. What Sources Did You Use When Looking For a Job?

The results from this question proved quite interesting. Some of the clients stated that they did not know where to look for jobs and, therefore, had difficulty obtaining employment. This is evident from the results of the above question as only 62.5% of the clients interviewed had used the Canada Manpower Centres to find work and only 50% had gone directly to employers for jobs. Newspapers were only used by 37.5% of the clients.

A friend or the family was used as a job source by 58.3% and 33.3% of the clients respectively. Other sources were used by 4 clients (16.6%). No one used any of the remaining sources listed under this question on page 76 of Appendix A.

2. How Has the Program Affected You and Your Family?

Of the 24 clients interviewed, 45.8% (11 of 24) stated that the program had no effect on them or their family. The remaining 54.2% said that the program had effected them in a favourable manner and stated various ways that the program has helped them.

The following are a number of quotes that reflect the most often cited reasons why these clients felt aided by the program.

"I did learn some carpentry and the training has given me more confidence on the jobs that I have worked on."

"The training has made it a little easier to find jobs."

"The program has helped me mature and to think about saving and budgeting."

"It (the training) has provided me with more job opportunities and a better education."

"The training has helped me get more jobs and a better living for my family."

3. Do You Feel That the Instruction Given to You in the Workshop and Classroom Was Useful to You in Obtaining Employment?

A positive reply to this question was received from 66.6% (16 of 24) of the clients interviewed. The remaining 33.3% (8 of 24) stated that the instruction did not help them in obtaining employment.

Those who responded in a positive manner indicated on the questionnaire that:

- a) the program provided basic experience needed for employment (14 of 16),
- b) the program provided basic education needed (13 of 16),

- c) instruction provided was geared to industry outside the plant (11 of 16) and,
- d) instruction provided a base for further education and, therefore, employment (11 of 16).

Those that responded with a negative reply indicated on the questionnaire that the:

- a) instruction was too general (4 of 8),
- b) instruction was not geared to work available outside the plant (3 of 8),
- c) classroom work was not specific enough (3 of 8) and,
- d) classroom work was too easy (5 of 8).

4. Do You Feel That the Counselling Services Provided Were of any Use to You (and When Applicable) and Your Family?

Of the 24 clients, 83.3%--(20 of 24) stated that the counselling services were of use to them. Only 4.1% (1 of 24)

said that these services provided did not help. The counselling services were not used by 12.5% (3 of 24).

It is important to note that of the 20 clients that used the counselling services, 17 of these people only used the services of the head counsellor at the plant and the instructors that taught the production skills. The remaining 3 clients were the only ones to use the remaining services of the housing manager and the "home visitor program." The "home visitor program" was directed at the family and consisted of counselling in budgeting, house-keeping, home-making, nutrition and health care. A favourable reaction towards this program was noted from the wives of these 3 families.

5. Given the Circumstances That You Were in Before the Training Period Began, Would You Enter the Program Again?

A favourable response towards the program was also noted here as 66.6% (16 of 24) stated that they would enter the program again under similar circumstances. There was a negative reply from 16.6% (4 of 24) and 16.6% stated that they were in-different.

## CHAPTER V

### CONCLUSION AND DISCUSSION

This chapter is combined of two separate sections - conclusions and discussion. The first section will deal with the conclusions according to the objectives stated in Chapter I. The second part of the Chapter will be used to discuss other aspects of this paper and its findings.

#### A. CONCLUSIONS

1. The program most certainly had a significant impact in the areas of increased earnings, employability and standard of living.

Of the 21 clients that qualified for the economic analysis, 15 trainees registered a positive effect that indicated an increase in earnings over their base period.

The impact on employment immediately after training is very significant. A very large number of clients are able to obtain jobs as soon as they leave the plant. Nineteen of the 24 clients interviewed were successful in obtaining employment immediately after training. Many of those clients who withdrew

from the program had jobs that they went to immediately.

The standard of living of the trainees was the area where the largest gains and improvements were registered. As was stated in Chapter IV, 47.6% of the 21 eligible clients had an improvement in housing and 47.6% remained the same. But the big difference was in material possessions. Eighteen of 24 clients (75%) recorded increases in material possessions.

2. Upon analysis of the data, one can state that there is a relationship between the increased earnings of the clients and the increase in the standard of living. Only 4 clients had a negative indicator for one section and a positive indicator for the other. Three of the 4 had a negative indicator for earnings and a positive indicator for their standard of living.

3. No concrete conclusions can be drawn for the third objective. Due to insufficient data, the impact of the counselling services on the clients could not be definitely determined. Perhaps the latter part of the objective, "in terms of adaptability to an urban setting," should be deleted as most of the clients returned home after the training period. Also, alternate questions could be constructed into the questionnaire so as to cover the counselling services with greater efficiency.



4. Questions were included in the economic section of the questionnaire to cover the reduced costs, if any, to the public in terms of a decrease in welfare and unemployment insurance records. But the data was insufficient as explained under the "Limitations" in Chapter II. This problem may be overcome if actual records of the clients could be obtained from the government departments concerned.

5. The clients themselves expressed concern for improvement in the program. The following are the most important and frequently mentioned.

- a) Many of the men stated that the training period was not long enough. In many instances these men stated that they did not have enough time to gain enough experience in all aspects of the shop work. This problem has since been partially solved with the possibility of permanent employment due to expansion.
- b) The amount of time spent in the classroom was a specific area of concern expressed by the clients. Many of the business stated the need for an increase in classroom time as they felt

this was very important. Clients felt that the most important subject taught in the classroom was mathematics. This surfaced in many conversations as being the most helpful to them.

- c) Some clients stated that they found it difficult at times to find employment, stating that they were not sure where to look for jobs. This was supported by data collected that indicated that many men did not use the conventional services such as Manpower Centres. Many felt that this aspect should be stressed more within the program.
- d) Another area of concern was expressed by some of the clients who withdrew from the program before their training period was finished. They stated that they had withdrawn (after approximately 3 to 4 weeks) because the program was providing skills that they already had. This lead to the suggestion that clients should be closely evaluated to determine the skills they already possessed and therefore the needs

of the clients can be readily identified.

- e) In a few cases, dissatisfaction was expressed with the wage rate (training allowances).  
Also, a few clients stated that they were disappointed in that no diploma or certificate was granted upon completion of the program.

Besides the areas of concern mentioned by the clients, two other aspects should be taken into consideration.

Even though the sample size is small, there is a definite trend existing for married men. Those clients that are married have a greater success ratio than those who are not married. Only 1 of the 8 married men had a negative income effect while the remaining 7 had positive effects. This would indicate that the program could have a higher success rate if directed more towards married men. The absence of the low-income housing was the reason for the small number of married men in the program between June, 1969 and June, 1971. This problem has since been rectified with the construction of low-income housing, enabling married men to have their families with them during training.

Also, a larger sample size could be easily achieved, making the methodology much more effective, with the development of a system that would allow the Manpower Corps to be constantly aware of the location of post-trainees. The interview team could then easily and quickly make contact with many more trainees and therefore give the Manpower Corps an opportunity to carry on a strong, on-going evaluation of the program.

6. No conclusions can be reached, in regards to the employer's reaction towards the program, as no data were collected for this aspect of the report. The large number of jobs that many of the trainees held since leaving the program made it impossible to evaluate this aspect. But work is needed in this area as the reaction of the employers may provide valuable information for the evaluation of the total training program.

7. The methodology developed in this report has met several of the objectives but has left many unanswered questions. But the information base that has been established provides a background and the first real evaluation of the program.

The limitations described in Chapter II can be corrected within the methodology. But the largest impacts on the methodology will not come from the correction of these limitations. The

methodology would be much more effective if more work was done on determining the interrelationships between the four major sections. This would enable the researcher to evaluate the program much more efficiently.

## B. DISCUSSION

Upon collection and analysis of the significant data, it can be said that the program has had a positive effect upon the clients involved in the program. The four main areas of analysis rank as follows, with the area of the greatest impact ranked as first.

1. Material possessions,
2. Income effect,
3. Housing standards, and
4. Trainee satisfaction.

Even though greater gains were registered in the area of material possessions, it must be noted that this, as well as housing standards, is directly related to the income effect.

The four exceptions to this indicate that a redistribution of income may have occurred. This could possibly be due to the counselling services that were provided during the program. Trainee satisfaction ranked as the lowest and the positive impact in this area was significantly lower than in the other major sections. It is felt that due to the importance of this section, a more sophisticated method should be developed for the measurement of trainee satisfaction. This could be achieved by altering and/or adding a more specific group of questions. This could also be combined with a change in timing with respect to asking these questions.

Of the 24 clients, 6 were motivated towards further up-grading. All of these trainees, with the exception of 1, scored in the medium or high range. One client has since successfully procured his Grade 10 certificate. There is no doubt that the program has provided motivation for many clients as well as provided them with the basic skills needed for employment.

APPENDIX A

QUESTIONNAIRE

MANPOWER CORPS  
FOLLOW-UP QUESTIONNAIRE

GENERAL IDENTIFICATION

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

SOCIAL INSURANCE NO.: \_\_\_\_\_

TELEPHONE NO.: \_\_\_\_\_

YEAR OF BIRTH: \_\_\_\_\_

MARITAL STATUS: \_\_\_\_\_

FAMILY SIZE: \_\_\_\_\_

DATES OF SERVICE PERIOD: From \_\_\_\_\_ To \_\_\_\_\_

BASE PERIOD: From \_\_\_\_\_ To \_\_\_\_\_

EXPOSURE PERIOD: From \_\_\_\_\_ To \_\_\_\_\_

DATE OF INTERVIEW: \_\_\_\_\_

QUESTIONNAIRE COMPLETED: Yes \_\_\_\_\_ No \_\_\_\_\_ Partly \_\_\_\_\_

If partly, why? \_\_\_\_\_  
\_\_\_\_\_

If no, why? \_\_\_\_\_  
\_\_\_\_\_

DATE OF QUESTIONNAIRE COMPLETED: \_\_\_\_\_

ENUMERATOR: \_\_\_\_\_



What do you regard your ethnic background (racial origin) as being?

Indian \_\_\_\_\_ European \_\_\_\_\_

Metis \_\_\_\_\_ Other \_\_\_\_\_

What languages do you speak?

French \_\_\_\_\_ Other \_\_\_\_\_

English \_\_\_\_\_ (Specify) \_\_\_\_\_

What languages do you write?

French \_\_\_\_\_ Other \_\_\_\_\_

English \_\_\_\_\_ (Specify) \_\_\_\_\_

What was the highest grade that you completed in the regular school system?

Grade \_\_\_\_\_ Year Completed 19 \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ECONOMIC ANALYSIS

CONFIDENTIAL

1. Base Period (12 months): From \_\_\_\_\_ To \_\_\_\_\_

<u>Description of work and non-work activity during this time</u> (Most recent job first)	<u>Wage</u>	<u>Hrs./ Wk.</u>	<u>Length of Time Worked</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
	<u>Total</u>	52 weeks	

What was your total income from all of the following sources?

Wages from working	_____
Unemployment insurance	_____
Family allowance	_____
Provincial welfare	_____
Municipal welfare	_____
Disability allowance	_____
Old-age pension	_____
Workmen's compensation	_____
Members of family (gifts and loans)	_____
Others (specify)	_____
Total	_____

Were you employed when you were accepted into the program?

Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, how long were you in continuous employment before you were accepted into the program?

\_\_\_\_\_

2. Service Period: From \_\_\_\_\_ To \_\_\_\_\_

What was your total income from all of the following sources?

Training allowances	_____
Moving allowances	_____
Family allowances	_____
Provincial welfare	_____
Municipal welfare	_____
Disability allowances	_____
Old-age Pension	_____
Workmen's compensation	_____
Members of family (gifts and loans)	_____
Others (specify)	_____
<u>Total</u>	_____

Did you relocate in order to enroll in the course?

Yes \_\_\_\_\_ No \_\_\_\_\_

If you did relocate, did you receive any moving allowances?

Yes \_\_\_\_\_ No \_\_\_\_\_

If so, how much? \_\_\_\_\_

Did you have to spend any of your own money for moving?

Yes \_\_\_\_\_ No \_\_\_\_\_

If so, how much? \_\_\_\_\_

Did enrollment in the program depend upon a moving allowance?

Yes \_\_\_\_\_ No \_\_\_\_\_

3. Exposure Period: From \_\_\_\_\_ To \_\_\_\_\_  
(Divided into 3-12 month fiscal periods.)

<u>Description of work and non-work activity during this time (Most recent job first, include location)</u>	<u>Wage</u>	<u>Hrs./ Wk.</u>	<u>Length of time worked</u>
<u>PERIOD #1</u>			
<u>PERIOD #2</u>			


PERIOD #3


What is your total income from the following sources?

	PERIOD #1	PERIOD #2	PERIOD #3
Income from employment			
Unemployment insurance			
Family allowance			
Workmen's compensation			
Provincial welfare			
Municipal welfare			
Old-age pension			
Disability allowance			
Others (specify)			
		<u>Total</u>	

Were you employed immediately after receiving training?

Yes \_\_\_\_\_ No \_\_\_\_\_

If not, how long were you unemployed until you received your first job?

\_\_\_\_\_

What sources did you use when looking for a job?

Canada Manpower Centre \_\_\_\_\_

Employers \_\_\_\_\_

Newspapers \_\_\_\_\_

Area Development Board \_\_\_\_\_

Dept. of Indian Affairs \_\_\_\_\_

Health & Social Development \_\_\_\_\_

A friend \_\_\_\_\_

Family \_\_\_\_\_

Others (specify) \_\_\_\_\_

\_\_\_\_\_

Your total earnings were \$ \_\_\_\_\_ in the year prior to the training period and \$ \_\_\_\_\_ in year 1, \$ \_\_\_\_\_ in year 2, \$ \_\_\_\_\_ in year 3 after the training period. Do you feel that these increases (decreases) were due to the program?

Entirely \_\_\_\_\_ Partly \_\_\_\_\_ Not at all \_\_\_\_\_

Comments:

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IN-PLANT ACADEMIC AND SKILLS

Relocation:

Why did you enroll in the course at the Selkirk plant?

Reasons:

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Did your wife encourage you to enroll?

Yes \_\_\_\_\_ No \_\_\_\_\_ Indifferent \_\_\_\_\_

Did your parents encourage you to enroll?

Yes \_\_\_\_\_ No \_\_\_\_\_ Indifferent \_\_\_\_\_

Did other members of your family encourage you to enroll?

Yes \_\_\_\_\_ (Specify \_\_\_\_\_)

No \_\_\_\_\_ Indifferent \_\_\_\_\_

How did you become aware of the program?

Canada Manpower Centre \_\_\_\_\_

Dept. of Indian Affairs \_\_\_\_\_

Health & Social Development \_\_\_\_\_

Area Development Board \_\_\_\_\_

Newspaper \_\_\_\_\_

A friend \_\_\_\_\_

Family \_\_\_\_\_

Reserve Officer \_\_\_\_\_

Other (Specify) \_\_\_\_\_

In the family situation that you are presently living in, the family consists of:

Wife \_\_\_\_\_

Children \_\_\_\_\_ (No. \_\_\_\_\_)

Father \_\_\_\_\_



Mother \_\_\_\_\_  
Brothers \_\_\_\_\_ (No. \_\_\_\_\_)  
Sisters \_\_\_\_\_ (No. \_\_\_\_\_)  
Father-in-law \_\_\_\_\_  
Mother-in-law \_\_\_\_\_  
Brothers-in-law \_\_\_\_\_  
Sisters-in-law \_\_\_\_\_  
Others (specify) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Who are the important people in your family?

\_\_\_\_\_  
\_\_\_\_\_

Who do you turn to for advice?

\_\_\_\_\_  
\_\_\_\_\_

Who has the most influence in the family?

\_\_\_\_\_  
\_\_\_\_\_

How important do you feel that you are to your family?

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Was your wife and children with you during training?

Yes \_\_\_\_\_ No \_\_\_\_\_

How has the training program affected you and your family?

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Did you relocate your wife and children after the training period?

Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, how many times? \_\_\_\_\_

Are they with you now? Yes \_\_\_\_\_ No \_\_\_\_\_

How many job locations required separation from your family?

---

Did you apply for government assistance when moving after the training period?

Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, did you receive assistance?

Yes \_\_\_\_\_ No \_\_\_\_\_

Did you prefer your present family location ( \_\_\_\_\_ ), or  
elsewhere ( \_\_\_\_\_ ).

If elsewhere, please specify location and possible reasons.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Do you feel that the instruction given to you in the workshop and  
classroom was useful to you in obtaining employment?

Yes \_\_\_\_\_ No \_\_\_\_\_ Indifferent \_\_\_\_\_

If no, why not?

Instruction was too general \_\_\_\_\_  
Instruction was not geared to work available \_\_\_\_\_  
outside the plant \_\_\_\_\_  
Classroom work was not specific enough \_\_\_\_\_  
Classroom work was too easy \_\_\_\_\_  
Others (specify) \_\_\_\_\_

If yes, how?

Provided basic experience needed for  
employment \_\_\_\_\_

Provided basic education needed \_\_\_\_\_

Instruction provided was geared to industry  
outside the plant \_\_\_\_\_

Instruction provided a base for further  
education, and therefore employment \_\_\_\_\_

Others (specify) \_\_\_\_\_

Do you feel that the classroom experience was related to the work  
on the floor?

Yes \_\_\_\_\_ No \_\_\_\_\_ Indifferent \_\_\_\_\_

Do you feel that the amount of time spent in the classroom should be

Increased \_\_\_\_\_, or Decreased \_\_\_\_\_

If increased, why? \_\_\_\_\_

If decreased, why? \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

STANDARD OF LIVING

	<u>Before Training</u>	<u>Presently</u>
Type of house residing in (log, brick, frame)	_____	_____
Number of rooms	_____	_____
Number of separate bedrooms	_____	_____
Age of the house	_____	_____
How would you describe the general condition (excellent, good, fair, poor, very poor)	_____	_____

Did you previously have, or presently have the following:

	<u>Before Training</u>	<u>Presently</u>
Car (make and year)	_____	_____
Truck (make and year)	_____	_____
Snowmobile (make and year)	_____	_____
Boat and motor	_____	_____
Electricity	_____	_____
Fridge	_____	_____
Electric stove	_____	_____
Telephone	_____	_____
Radio	_____	_____
Television (B & W or colour)	_____	_____
Deep freeze	_____	_____
Washing machine	_____	_____
Clothes dryer	_____	_____

Running water	_____	_____
Indoor washroom facilities	_____	_____
Hot water heater	_____	_____
Central heating	_____	_____
Newspaper	_____	_____

Are your family living conditions superior, equal, or poorer than prior to training? \_\_\_\_\_

Are your children as happy here as they were where you came from?

Yes \_\_\_\_\_ No \_\_\_\_\_ Indifferent \_\_\_\_\_

Is your wife as happy here as she was where you came from?

Yes \_\_\_\_\_ No \_\_\_\_\_ Indifferent \_\_\_\_\_

Please check the following reasons why they may, or may not, be happy here.

	<u>Yes</u>	<u>No</u>
Close to friends	_____	_____
Close to other members of the family	_____	_____
Good shopping facilities	_____	_____
Good education facilities for children	_____	_____
Good health care facilities (hospitals, clinics, etc.)	_____	_____
Others (specify) _____	_____	_____

COUNSELLING SERVICES

Do you feel that the counselling services provided were of any use to you (and when applicable) and your family?

Yes \_\_\_\_\_ No \_\_\_\_\_ Indifferent \_\_\_\_\_

Which of the following did you (and your family) find helpful?

Head counsellor at the plant	_____
Housing manager	_____
Instructors on the floor	_____
Home visitors program	_____
Budgeting	_____
Housekeeping	_____
Home-making	_____
Nutrition	_____
Health care programs	_____
Referral services	_____
Pre-relocation counselling	_____
Others (specify) _____	_____

TRAINEE SATISFACTION

The following relates to your present job (or last one if presently unemployed) and circumstances under which you and your family are now living and is also strictly confidential.

Type of work: \_\_\_\_\_

Name of employer: \_\_\_\_\_

Community in which you reside: \_\_\_\_\_

Upon reading the following statements, would you (1) strongly agree,  
(2) agree, (3) undecided, (4) disagree, (5) strongly disagree:

1. In general, my working conditions are good (such as lighting, ventilation, equipment, cleanliness, etc.). \_\_\_\_\_
2. My immediate supervisor (boss) takes time to explain new work to me. \_\_\_\_\_
3. My pay is all right for the kind of work I do. \_\_\_\_\_
4. There is a lot of favouritism where I work. (Some of the employees get all the breaks.) \_\_\_\_\_
5. I feel that the work I do is very important. \_\_\_\_\_
6. My immediate supervisor (boss) is quick to take care of complaints brought to him by employees. \_\_\_\_\_
7. Most of the people I work with are the kind who say "hello" when I pass them on the street. \_\_\_\_\_
8. I make as much money as most of my friends. \_\_\_\_\_
9. I would like to change my job for another. \_\_\_\_\_
10. Do you regard your job as permanent? Yes \_\_\_\_\_ No \_\_\_\_\_
11. I feel that the community I live in is as friendly as the place I came from. \_\_\_\_\_
12. The type of transportation (car and/or truck) fulfills my requirements. \_\_\_\_\_



13. The house we are now living in is quite adequate for our needs. \_\_\_\_\_
14. The furnishings in our house are adequate. \_\_\_\_\_
15. The facilities available to myself and family are adequate (schools, doctors, stores, etc.). \_\_\_\_\_
16. I would return to my old residence if the same work was available. \_\_\_\_\_
17. The training received at the Selkirk plant is sufficient to serve the needs of myself and family \_\_\_\_\_
18. I feel that the program has made me more confident in the work that I do. \_\_\_\_\_
19. I feel, due to training program, that more jobs are open to me. \_\_\_\_\_
20. My wife feels more confident about living here than she did when she first came. \_\_\_\_\_
21. My children feel more "at home." \_\_\_\_\_
22. My "boss" says that I do a good job. \_\_\_\_\_
23. My fellow workers say that I do a good job. \_\_\_\_\_

Do you personally have any suggestions about how the program could be altered so as to make it more helpful to the trainees?

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Given the circumstances that you were in before the training period began, would you enter the program again?

Yes \_\_\_\_\_ No \_\_\_\_\_ Indifferent \_\_\_\_\_

Why? \_\_\_\_\_

Interviewer's comments:

APPENDIX B

COMPONENTS USED IN CALCULATION OF THE INCOME EFFECTS

COMPONENTS USED IN CALCULATION OF THE INCOME EFFECTS

$$P_1 E^n - 40.70$$

$$X E^n - 40.88$$

$$P_1 Y^n - 94.50$$

$$X Y^n - 84.86$$

Where:

$P_1 E^n$  = Employment in weeks for first 12-month period of exposure  
for norm group.

$X E^n$  = Employment in weeks for base period of the norm group.

$P_1 Y^n$  = Earnings per week in first 12-month period of exposure  
for norm group.

$X Y^n$  = Earnings per week for base period for the norm group.

And:

$$P_2 E^n - 40.54$$

$$P_3 E^n - 40.38$$

$$P_2 Y^n - 105.22$$

$$P_3 Y^n - 117.16$$

Where:

$P_2 E^n, P_3 E^n$  = Employment in weeks for second and third 12-month periods of exposure for norm group.

$P_2 Y^n, P_3 Y^n$  = Earnings per week in second and third 12-month periods of exposure for norm group.

APPENDIX C

GROUP AVERAGES USED IN ECONOMIC EVALUATIONS

GROUP AVERAGES USED IN ECONOMIC EVALUATIONS

The income effect for several clients was calculated under specific circumstances. These clients had data available for the exposure period but did not have data available for the base period. It was assumed that these people, if working in the base period, would have registered the same income and worked the same amount of time as the group average. This average was calculated using only those clients that had an employment record for the base period and the corresponding fiscal periods ( $P_1$ ,  $P_2$ ,  $P_3$ ) of the exposure period. Therefore, three sets of groups averages resulted.

The first fiscal period ( $P_1$ ) of the 7 out of 24 clients considered, was evaluated using the group average of:

35.53 - number of weeks employed in base period, and  
71.61 - weekly wages in the base period.

The employment and earning records of 13 clients were used to obtain these averages.

The second fiscal period ( $P_2$ ) was evaluated by using the group averages of:

34.80 - number of weeks employed in the base period, and  
71.39 - weekly wages in the base period.

The employment and earning records of 15 clients were  
used to obtain these averages.

The third fiscal period ( $P_3$ ) was evaluated using the  
following group averages of:

43.25 - number of weeks employed in the base period, and  
71.20 - weekly wages in the base period.

These averages were obtained using records of 8 clients.



APPENDIX D

STATISTICAL ANALYSIS

### STATISTICAL ANALYSIS

Two specific areas in the study were tested statistically. The first set of tests were conducted on the results of the four major sections on Table 5-1, page 48. It is desirable to determine whether the observed results indicate real positive effects of the Manpower Training Program, or whether the results can be attributed to chance. The second set of tests were conducted to determine if the sample of 24 clients is representative with respect to a specific set of variables. The procedures and results for the two sets of tests are as follows:

#### (A)

The first set of tests are conducted using the data on Table 5-1, page 48. Each major section was tested separately to determine whether the pattern of +'s and -'s occurred by chance or if there was a real effect experienced by the clients.

##### (1) Income Effect

One is interested in judging statistically whether there is a real income effect. (Did people who undertook the Manpower Training Program improve their incomes?) That is, can the excess of +'s to -'s in

Table 5-1, column 1, be attributed to chance?

Under the hypothesis of no income effect, one would expect an equal number of +'s and -'s, since any given client has an equal chance of being coded as a + or -. Alternately, if the Manpower Training Program really was useful in improving client's incomes, one would expect more +'s than -'s.

Therefore, statistically, the null hypothesis and alternative hypothesis can be stated as;

Ho:  $P = \frac{1}{2}$

Ha:  $P > \frac{1}{2}$

Where:

-Ho is the null hypothesis of no income effect.

-Ha is the alternative hypothesis of a positive income effect.

-P is the probability of observing a + for the income effect of a client.

The statistical test involves a critical level  $\alpha$  ( $0 < \alpha < 1$ ).

Assuming that the null hypothesis is true (no income effect), one determines an "unusual" event to be one that has a probability of occurrence less than  $\alpha$ . Therefore, if

the probability of the observed event, or one more extreme, is less than  $x$ , one rejects the null hypothesis. Alternatively, the null hypothesis is not rejected when the probability is greater than  $x$ . In this test, and all subsequent tests,  $x$  was chosen to be .05.

In column 1 of Table 5-1, page 48, there are 15 +'s and 6 -'s out of 21 observations, upon deletion of the 0's and N/A's. Is this outcome statistically different from the expected outcome of 10.5 +'s and 10.5 -'s as stated under  $H_0$ ?

Under  $H_0$  ( $P = \frac{1}{2}$ ), the probability of observing the observed, or a more extreme event, (that is, 16+'s, 17+'s, 18+'s, etc.) is;

1 - probability (number of +'s  $\leq 14$ )

1 - .96082 = .03918

This probability (.03918) is less than the critical level of .05 and hence, observing 15+'s and 6-'s out of 21 clients cannot be attributed to chance.

Therefore, one rejects the hypothesis  $H_0: P = \frac{1}{2}$  and concludes that the data implies that the income effect was positive.

(2) Other Individual Effects

Similar tests were also conducted for each of the indicators of housing standards, material possessions and trainee satisfaction. The result for all indicators are summarized in Table 8.

Table 8

STATISTICAL TEST RESULTS  
OF TABLE 5-1 INDICATORS

<u>INDICATOR</u>	<u>SAMPLE SIZE*</u>	<u>NO. OF PLUSES</u>	<u>PROBABILITY</u>	<u>CRITICAL VALUE</u>
Income	21	15	.03918	.05
Housing Standards	11	10	.00586	.05
Material Possessions	19	18	.00004	.05
Trainee Satisfaction	10	6	.37695	.05
Final	18	16	.00066	.05

\*0's and N/A's are deleted from the total sample of 24 clients.

The results for individual effects indicate that the Manpower Training Program had a positive effect on each of the indicators of income, housing standards and material possessions, and no effect on the indicator of trainee satisfaction.

(3) Final Indicator

It is desirable to have an overall indicator in light of the fact that only 3 out of 4 individual indicators were deemed positive statistically. Assuming that all columns have an equal weighting, one is able to conduct a similar binomial test on the "final indicator" column. The result is given in the last row of Table 8. One concludes that overall, the Manpower Training Program had a positive impact on clients incomes, material possessions, housing standards and trainee satisfaction.

(B)

With the second set of tests, one would like to test whether the sample of 24 clients is representative of the target population of 55 clients. Data on all (or nearly all) 55 clients

is available for the characteristics of marital status, completions, employment before training, employment after training, up-grading, age and education. The first five characteristics are counting (yes or no) variables and the latter two are continuous variables (taking on a spectrum of numerical values).

It is possible to statistically test whether the drawn sample is representative of the total population with respect to each characteristic (since population data is available). As well, a crude overall test is conducted to ascertain whether the sample is representative of the parent population, with respect to these selected characteristics, in general.

(1) Counting Variables

A binomial test of proportions is conducted on each counting variable. That is, for each attribute, one tests if the sample can be considered as having been randomly drawn from a total population which has the same proportion of clients having this attribute, as the target population.

The null and alternative hypotheses are;

Ho:  $P = P_o$   
and  
Ha:  $P \neq P_o$

Where:

$p$  = proportion of sample having a  
particular attribute,

$P$  = proportion of population, having the  
attribute, from which the drawn sample  
may be considered random,

$P_o$  = proportion of target population having  
the attribute,

$n$  = sample size,

$N$  = population size, and

$Q = 1 - P$



The level of significance  $\alpha$  is set equal to .05.

When the null hypothesis is true, the test statistic (using the normal approximation to the binomial distribution),

$$\left( \frac{n - p}{\sqrt{\text{var}(p)}} \right)^2$$

is approximately distributed as a Chi-Squared variate with 1 degree of freedom, where:

$$\text{Var}(p) = \frac{PQ}{n} \left( \frac{N-n}{n-1} \right)^2$$

If the value of the test statistic is greater than the critical value of the Chi-Squared distribution having 1 degree of freedom (3.841), one rejects the hypothesis that the sample is randomly drawn from a total population having the same proportion, with the attribute, as the target population of all 55 clients. Otherwise, one does not reject the hypothesis.

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<sup>1</sup>Hogg, R. V. & Craig, A. T., "Introduction to Mathematical Statistics", The MacMillan Company, New York, 2nd Ed. (1969), p. 140.

<sup>2</sup>Cochran, W. G., "Sampling Techniques", John Wiley & Sons Inc., New York, 2nd Ed. (1963), p. 51.

For example, 8 of the 24 clients interviewed were married and 22 of the total group of 55 were married. To test whether the sample is representative with respect to the variable "marital status", first one calculates:

$$\text{Var } (p) = \left( \frac{22}{55} \right) \left( \frac{33}{55} \right) \left( \frac{55 - 24}{55 - 1} \right) = .0057$$

The value of the test statistic is equal to:

$$\left( \frac{\frac{8}{24} - \frac{22}{55}}{\sqrt{.0057}} \right)^2 = .8482$$

Which is less than 3.841. Therefore, one does not reject the hypothesis that the sample is representative with respect to the variable "marital status".

Similar statistical tests were conducted on the other counting variable and the results are presented in Table 9.

The statistical results for individual counting variables indicate the sample is not representative with respect to marital status, completions and up-grading. However, one cannot consider the sample representative of the target population

Table 9

TEST RESULTS FOR VARIABLES

<u>VARIABLES</u>	<u>VALUE OF TEST STATISTIC</u>	<u>CRITICAL VALUE</u>
(1) Marital Status	0.8482	3.841
(2) Completions	0.6230	3.841
(3) Employment Before Training	5.01	3.841
(4) Employment After Training	7.84	3.841
(5) Up-Grading	1.40	3.841
(6) Age	0.4670	3.841
(7) Education*	1.27	3.841

\*Data was available for only 47 clients.

of all 55 clients with respect to the variable of employment before training and employment after training.

(2) Continuous Variable

In the case of a continuous variable, one tests whether the sample can be considered as a random (with respect to the given variable) sample from the known parent population. The null and alternative statistical hypotheses are:

$$H_0: \mu = \mu_0$$

$$H_a: \mu \neq \mu_0$$

Where;

$\mu$  = mean of population from which the  
known sample may be considered as random.

$\mu_0$  = mean of the target population.

N = population size

n = sample size

$x_i$  = value of variable for an individual client.

$\bar{x}$  = sample mean (mean of the  $x_i$ 's).

The level of significance  $\alpha$  is set equal to .05.

To conduct the statistical test, first one calculates the population variance of the given variable.

$$s^2 = \sum_{i=1}^N \frac{(x_i - \mu_0)^2}{N-1}$$

When  $H_0$  is true, the test statistic  $\left( \frac{\bar{x} - \mu_0}{\text{Var}(\bar{x})} \right)^2$

is (using the Central Limit Theorem) approximately distributed as Chi-Squared with 1 degree of freedom where;

$$\text{Var}(\bar{x}) = \left( \frac{1}{n} - \frac{1}{n} \right) s^2 \quad ^3$$

As in the test for counting variable, one rejects  $H_0$  if the value of the test statistic is greater than 3.841.

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<sup>3</sup> Cochran, W. C., Op. Cit. Pg. 22

For example, to test whether the sample is representative with respect to age, one calculates;

$$s^2 = \sum_{i=1}^{55} \frac{(x_i - 27.5)^2}{55 - 1}$$

$$s^2 = 38.74$$

The value of the test statistic is;

$$\left( \frac{26.9 - 27.5}{\sqrt{\left(\frac{1}{24} + \frac{1}{47}\right)s^2}} \right)^2 = .467$$

Which is less than 3.841. Therefore, one concludes that the sample is representative with respect to age. A similar test on the variable, education, produced a non-significant Chi-Squared value (See Table 9), and hence, one concludes that the sample was also representative with respect to education.

It is desirable to have an overall test of how representative the sample is with respect to these 7 variables, since not every individual test supported the hypothesis that the sample is random.

A result of statistics is that the random variable, defined as the sum of independent Chi-Squared variables, is distributed as a Chi-Square variable having the sum of the individual degrees of freedom.<sup>4</sup> Therefore, a crude test of the overall hypothesis (the sample is representative with respect to all variables in general), can be conducted by summing the calculated test statistics and comparing this tabulated value to the critical value at the .05 level of the Chi-Squared distribution having the sum of the degrees of freedom. However, it was felt that employment before training and employment after training were related and hence the independence assumption would not hold if both these variables were included. Arbitrarily, employment before training was dropped and the values of the test statistics for the other 6 variables were summed to produce the value of the overall test statistic of 12.448. This value is less than the critical value, at the .05 level of significance, of the Chi-Squared distribution with 6 degrees of freedom, namely, 12.592. Therefore, one concludes, that overall, the sample is representative of the target population of all 55 clients.

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<sup>4</sup>Weg, R. V., & Craig, A. T., Op. Cit., Pg. 189.

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