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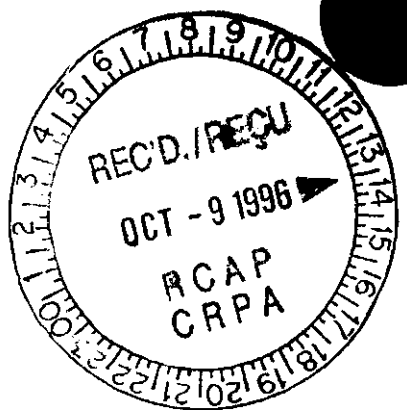
SECTORAL STUDY: AGRICULTURE



ROYAL COMMISSION ON ABORIGINAL PEOPLE

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EXECUTIVE SUMMARY

Farming on reserves has been a tentative development since the mid-1800's when it became obvious that the traditional resource base for food for natives was disappearing. Some successes have been noted but, in general, the manner of allotting reserve lands for farming, the inaccessibility by natives of a credit base for farming developments, and the failure of the information flow to reach the native farmers has meant that most operations have been marginal at best.

Developments in recent decades have greatly improved the possibilities for reserve agriculture. The Indian Agricultural Programs were the catalyst which started the change in Band attitudes toward farming by building an infrastructure of staff and programs. These initiatives need to be supported and developed further. The entire subject would benefit from the overall direction provided by a National Indian Agricultural Council.

Except for training native youth, or for cottage industries the idea of locking an individual into a small, inefficient farming operation is self defeating. There is a need for a feasibility-based approach that recognizes the realities of the market place, the requirements for capital, scale of operations, quality and quantity of output, management skills and marketing strategies that must eventually be in place to match market demands. It is recommended that Bands consider joint-ventures to bridge their present situation with what is required. Bands require that a full resource-use study be made of their lands.

Farming in Canada has recently undergone a major adjustment and out of that is emerging systems of grain and livestock production that are globally competitive. Large-scale livestock units, ethanol and beef feeding complexes, specialized crops and game farming are worth close study by Bands with an arable land base, and an interest in farm development.

Reserve agriculture will not develop without much more attention to training programs and information transfer systems. This extends from youth training, through vocational, to degree training, plus some information for the professions acting as consultants.

FOREWORD

This report was carried out as a, "one person", assignment. Many people and records have been accessed, and all are gratefully acknowledged. The purpose of this study of AGRICULTURE, which is a part of the broader issue of LAND and RESOURCES, for the ROYAL COMMISSION ON ABORIGINAL PEOPLE, is as follows -

"To undertaker an in-depth examination of several land/resource-based sectors that are important for the economies of the Aboriginal communities, with particular attention to the questions of access/control, level and forms of employment and economic development in the sector, legislation and policy governing the sector, and the potential new directions for the communities dependent on a land resource base. The sectoral studies will contribute to the information base of the Commission and to the formulation of recommendations pertaining to land and resources. The result of the sectoral studies will be made widely available through the publication program of the Commission."

By agreement with the Commission, this study covers "game farming and ranching" but not the management of wild game. Similarly, the practices and problems of Metis farmers are not covered, but rather are the subject of a separate report.

This report is intended to review topics of importance for native farming. Further, in-depth considerations would be required to fully investigate the many issues introduced.

C.M. WILLIAMS

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INTRODUCTION

The topic of this paper, being partly an economic and partly a physical review of native agriculture, and conditioned by the social and political environment of native developments, demands that some broad recommendations on agriculture be made. Certain agricultural enterprises are quite specific, so other recommendations will reflect the details of how native farmers might respond to actual opportunities.

Throughout the following pages, the reader will find that a few dominant issues arise repeatedly:

- Individual native farmers, but more particularly Band Councils, have to make a decision on whether, for their reserve situation, agriculture is to be a market responsive development, or whether it is merely a companion activity to a more significant need for a residential use of the land.

- In the case of market responsive agriculture, whether by individuals, the Band, or in a joint-venture; the land base, capitalization, scale of operation, management abilities and the access to markets must be comparable and competitive with the non-native communities.

- The development of reserve agriculture, has in large part, lagged far behind that outside of the reserves. As such, the efforts to "catch up" and become comparable must be greatly increased in terms of support, services available, education of participants, availability of credit and so forth. Native staffing is key to acceptance of agriculture as a development priority.

- Programs are of little value unless they are delivered by appropriate agents to recipients that are conditioned to receive the benefits. Native agriculture must have the organization for information transfer, and planning and execution of agricultural programs.

1.0 BACKGROUND

There are many dissertations on the history of native agriculture in Canada and how it relates to the current social and economic status of Aboriginal peoples (eg: Carter, Cardinal, Wuttunee and others) (8)(7)(57). Not all agree on the details, nor how their views should bear on future development, but there is a consensus among them that it could, and should have been, otherwise. Had different opportunities been provided early on for the Tribes, as they accommodated the interventions of Europeans to better develop farms and farming careers, the results might have been quite different.

It is not an objective of this report to detail the steps leading up to, or to direct blame and assign praise for, the current status of native farming in Canada, except where such items bear directly on the recommendations being offered. It is fair to say, however, that the transition for the Aboriginal peoples of Canada, from a mainly hunting/gathering society to the farming one introduced by the European "homesteaders" was a traumatic step. The people of the First Nations capacity to change relatively rapidly was shown by their adopting commercial trapping for furs when the trading opportunity was presented. Then there was the ready incorporation of the horse into their socio/economic structures only a short while before settlement by Europeans spread westward, and again by their desire and quick ability to acquire the skills of tilling land and raising livestock in the manner introduced in the 1800's. When it became obvious to many

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of the Chiefs in western Canada, that their people had to rapidly switch to farming after the failure of the buffalo hunts, they were ready to change if given the appropriate assistance. Despite some notable exceptions, it does not overstate the current situation to suggest that reserve farming has failed dismally as a means of providing either a dependable source of food, an adequate income, or a rewarding way of life for the majority of the native people.

The current situation with respect to the manner of directing development on reserves is very fluid. Most notably, the nation-to-nation obligations as agreed to in the various Treaties have been consolidated in the Constitutional Act of 1982. The failed Charlottetown Accord of 1992 contained certain refinements that may now have to be sought in a step-wise manner, as has been proposed in the contentious Optional Chartered Land Legislative Proposal for Specific First Nations for all of Canada (43), and the more popular Treaty Land Entitlement agreements in Saskatchewan.

In view of the previous paragraphs, it is appropriate to list a number of summary observations as background for the later detailed examination of the opportunities for native farmers:

a) The manner of land allocation for individual and for Band agricultural projects, although justifiable in the atmosphere of the trust obligations of the Crown for the First Nations resources and the land management responsibilities of each Band Council for future generations, nevertheless, does condition dramatically the manner in which agricultural development can proceed.

b) The difficulties with acquiring credit (difficulties with providing land as collateral in the first instance), has relegated most individual farming endeavours on reserves to small-

scale, low-technology operations.

c) Technology transfer to potential, and to operating native farmers, has been much too slow for them to stay abreast of the market pressures of what is commonly referred to as the "cheap food policy".

d) Even with modest income expectations, subsistence agriculture is not now, if it ever was, a realistic starting point for a beginning farmer in most areas of Canada. The competition within each production sector and the risk involved make it necessary to produce at acceptable standards of quality and quantity and based on up-to-date means of production.

e) There has been a two-to-three generation gap between the few successful early native farmers and the potential farmers of today. This means that there are too few Indian farmers serving as role models or as day-to-day advisors.

The above limitations have been recognized by planners in the past. Where modest farming successes have occurred, they can be credited to how many of these difficulties have been surmounted. As examples of alternative approaches; non-natives have been encouraged to purchase houses on lands leased from the reserve, (West Bank First Nation Chief Robert Louie) (38) and, combined native and non-native joint venture investments have been negotiated for off-reserve activities, as in an alfalfa pelleting plant, (Nipawin, Jane Powell) (46). Most notable, as an indication that perhaps attitudes about land management are changing, is that the examination and debate could even occur, about the ability of individual Bands to lease out lands, independent of federal authority (43).

1.1 PRE-EUROPEAN AGRICULTURE

There are so many reminders of the specific nomadic lifestyle of the aboriginal peoples of northern and western Canada, that one can be forgiven failing to remember that many, perhaps the majority of the North American pre-European population practised some form of hand-powered agriculture. The records show that farming of squash and corn provided a regular part of the diet of natives east of the Great Lakes and to a lesser extent, even in the Red River area of what is now Manitoba.

The significance of the above observation is that the aboriginal peoples of North America were generally aware of the benefits of a crop food supply in addition to that from hunting and gathering. Farming, with the means at hand, was practised where possible. However, it does underline the reality that farming on the plains, without the benefits of animal power and appropriate implements was not possible. The Europeans introduced power implements and indirectly, the horse, which were the missing factors to make it conceptually possible for some of the prairie tribes to take up agriculture, which they did, it not with enthusiasm, at least with conviction.

1.2 THE TRANSITION PERIOD

As indicated above, there were serious limitations for the Bands and individuals that chose to develop farming. In hindsight it is clear that the leap was much too great for any but a few without a great deal more of very special assistance. Neither the educational, financial or extension help was adequate, or sufficiently sustained, to allow native farmers to reach the state of being able to progress independently. The lessons to be learned from those earlier years of

failure were the basis for the design of the Saskatchewan Indian Agricultural Program (SIAP), in which it was decided to provide "grandfathers" by hiring experienced non-native farmers as close advisor to beginning farmers. It was also decided to make credit more available and provide a planning capacity to Bands intending to begin projects. The pattern, with local variations, was initiated in Ontario and the other western provinces.

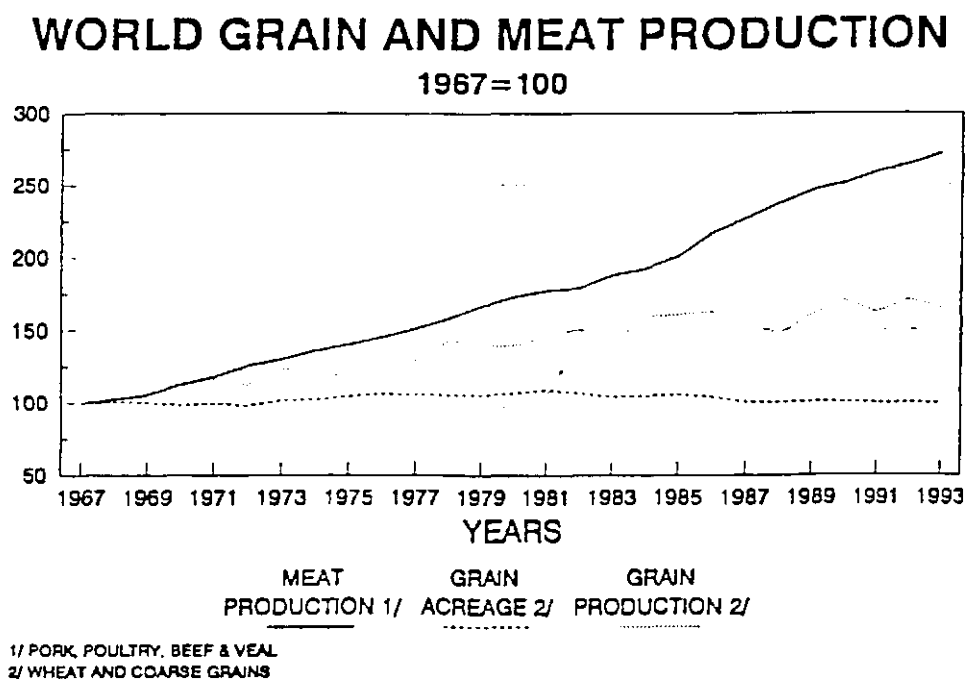
2.0 STRUCTURE OF THE CURRENT FOOD SYSTEM

There were substantial changes to the structure of the farming sector and related industries serving Canadian agriculture in the period following World War I, the point for the major separation of aboriginal and non-aboriginal farming. Since World War II, this rate of separation has accelerated, further limiting the options open for native farmers. The following paragraphs will scan the current situation on the assumption that any recommendations for improving farming on reserves will have to; recognize the needs of the aspiring native farmer, both the limitations and special opportunities provided by the reserve setting, and of source the realities of the market place in which his, or her, farm products must compete.

2.1 GLOBAL FOOD PRODUCTION AND MARKETING

There are many ways of expressing the current situation in the food sector. Some will argue, as does Donald Daintry (13), that the marketing of agricultural products is the key to success. His contention is that because Canada is a high cost producer that we must concentrate on value-added products, very high quality and service, and on the marketing skills to maintain a market share. Others claim that improvements through biotechnology will decide the countries

ch will dominate in providing food. Still others believe that the speed and accuracy of the information delivery system will be key. Whatever history will show about this tumultuous period, it is apparent that success will not come from simply producing and exporting more of the raw products that are already surplus on the world market.



This chart shows trends in global grain and meat production since 1967, with the base year set at index 100. Global wheat and coarse grain acreage, after rising slightly in the 1970's, is roughly at the 1967 level. Global grain production is up almost 75 percent while global meat output is approaching three times the 1967 level. This chart shows that increasingly more grain has consistently been grown on a stable acreage base. Considerably more meat has also been produced for any given level of grain output with each passing year. These higher grain and meat output trends reflect increased efficiencies and productivities and help to explain the weak global prices of recent years.

The most recent market phenomenon is what is termed the "global market". In effect, the aspect of the food system that determines world prices, and who shall supply which market, has moved away from the primary producers and their traditional collection and selling institutions. The livestock auction and the grain elevator, which for many decades has represented the market delivery point and the window on the price setting mechanism, have lost their significance.

Much of the food system, (estimated to be one third of the total) is now dominated by a few major corporations, often linked with others internationally, which purchase and combine commodities from around the world, into processed food items. National boundaries are now merely inconveniences rather than limitations to trade, and distance simply a part of overhead. As a consequence, price, quality and ability to supply quantities on demand, determines which food producing area will export their products into the system.

To cite a specific example of the changed situation; only thirty years ago, the beef packing industry in Canada would state quite confidently, that they would accept and market any animal the farmers delivered to their plants. Currently, one has to have precisely the quality of animal demanded in the market or suffer severe discounts, and furthermore, one may have to arrange for a date to have one's animals accepted. The implications for native agriculture is that a production project, whether individual or Band managed, must plan to "land running", so to speak, providing in quantity the quality of crop or animal demanded by a market which has grown very intolerant of beginners and inefficiency.

2.2 THE CANADIAN SITUATION

Canadian agriculture has some realities about it which dominate the production systems that have evolved. The first and most obvious is the climate, which for all parts of Canada, with the possible exception of the lower mainland in British Columbia and the Niagara Peninsula, is a limitation on certain types of agricultural production. Fortunately, however, the climate is also an advantage in that Canada is very favoured in terms of fewer plant and animal diseases and this creates a significant edge in many international markets.

A second important condition which affects farming in Canada is the limited areas that are arable. Farming is possible in localities in a band of land above the Canada/U.S. border and below the Canadian Shield. Even within these farming areas there is variability of soils and topography which determine whether crops or grazing of livestock can be practised.

Finally, in western Canada particularly, there has been the unique political/economic climate which has determined that we would base our agriculture on the export of grain. There has brown up a system which is more accepting of government and institutional involvement in the affairs of farming by the general population, than for instance, is the attitude of the food producing sector in the United States. The decision to remain as a federation of provinces, coupled with the long distances to markets from the prairies, and concentrations of population in central Canada and on the West Coast, have led to competition between regions and some uneven development. These differences and special Canadian conditions determine not only the non-native farming situation, but must effect the recommendations intended to assist native farmers to make significant advances.

Admittedly, native farmers are a special group, but as stated earlier, if they are to make

a significant portion of their income from farming, they cannot escape the demands of the market, not the realistic costs of farming. Following this argument to its ultimate conclusion, there are more likely to be successful native farmers if they follow along the pattern of the successful non-native farmers, than otherwise.

The following two figures spell out a very significant trend. As this example shows, the number of farms in Saskatchewan is falling, but those with gross sales of less than $100,000 are falling most rapidly while those with greater than $100,000 sales are rising. The larger units are what is eventually required to make a living from farming, native or non-native (42).

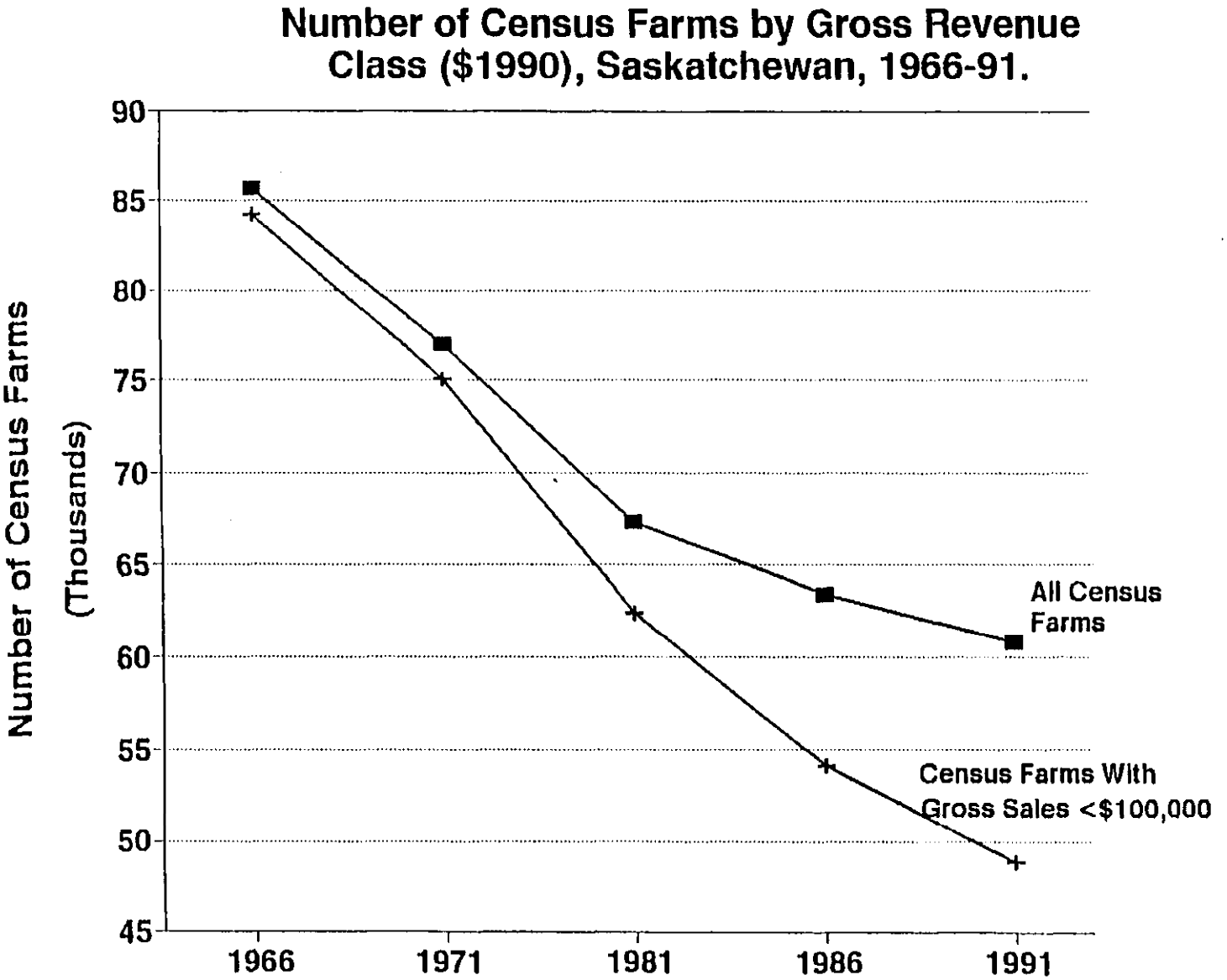

Number of Census Farms by Gross Revenue Class ($1990), Saskatchewan, 1966-91.
Number of Census Farms (Thousands)
90
85
80
75
70
65
60
55
50
45
1966
1971
1981
1986
1991
All Census Farms
Census Farms With Gross Sales <$100,000

Figure 1

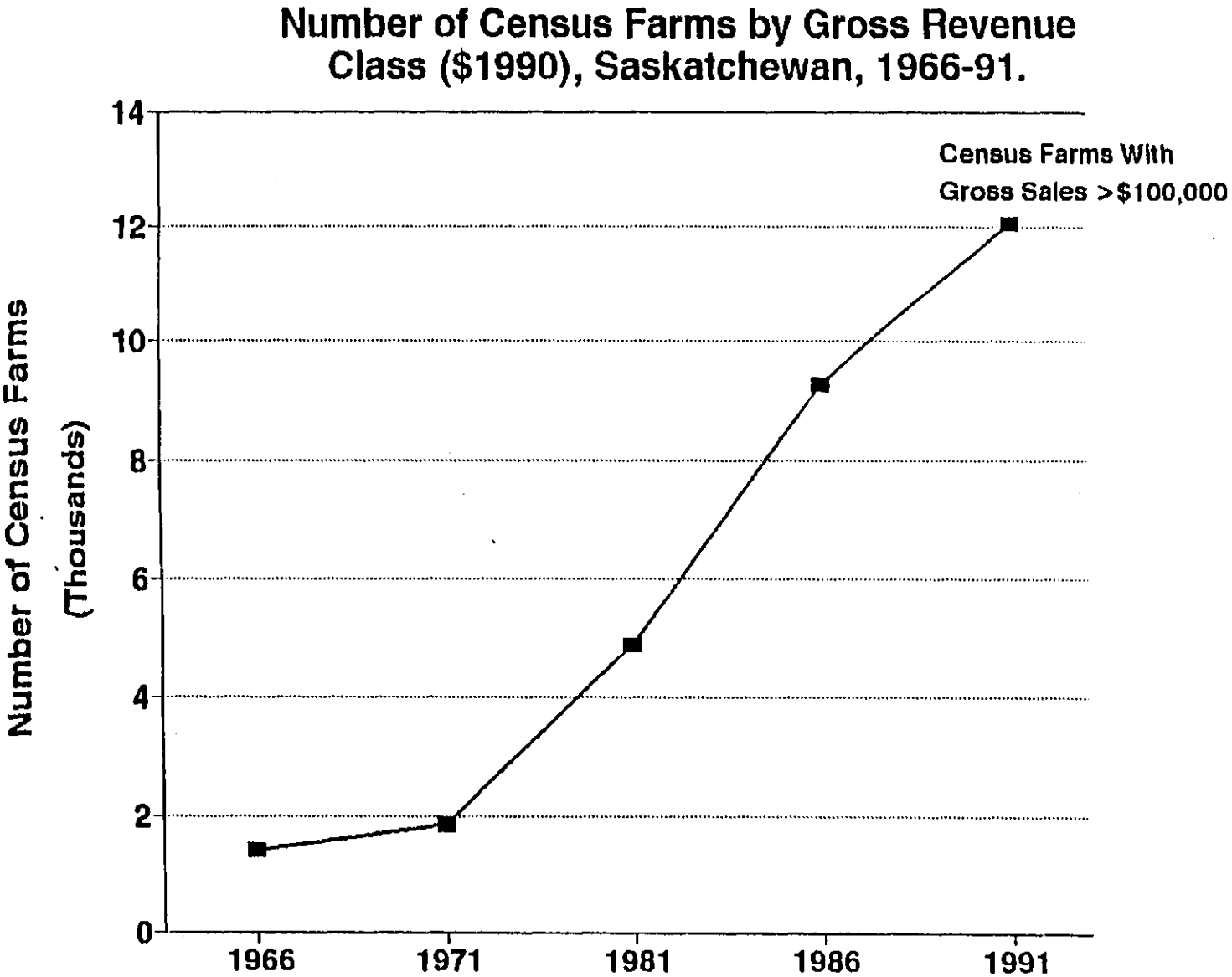

Number of Census Farms by Gross Revenue Class ($1990), Saskatchewan, 1966-91.
Number of Census Farms (Thousands)
Census Farms With Gross Sales >$100,000
14
12
10
8
6
4
2
0
1966
1971
1981
1986
1991

Figure 2

2.2.1 The Livestock Industry Structure

2.2.1.1 The structure of the swine industry

The structure of a food production system affects decision making. As an example, it is important to the medium term development of the Canadian swine industry how the processing sector chooses to organize. It has been recognized that in both central Canada and on the prairies that there has been slaughtering overcapacity. Some consolidation of ownership and closure of older facilities has improved the situation, but there is still need for more rationalization for a healthy industry.

A direct quote from Feed Grain Facts (21), illustrates the dynamic nature of the swine industry and, furthermore, the need of all industry entrants to get quickly up-to-speed with the leaders.

> "Today, hogs in the U.S. are increasingly being viewed as "pork production platforms" rather than "grain disposal units", particularly by the major producers. Hog genetics are paramount for the large corporations in hog production and other U.S. hog producers must either adapt to these higher standards to compete or else exit the industry.
>
> With the improved genetics and continued increases in the number of pigs saved per litter, U.S> pork output per sow has been rising dramatically since the early 1980's. According to Spark's Companies Inc., pork produced per sow in the U.S. has risen from an average of less than 1700 lbs per annum in 1980 to more than 2400 in 1993. U.S> pork standards are also converging with Canadian levels and, in fact, the more progressive U.S> producers are already able to offer a comparable product".

One very important change has occurred in the source of improved breeding stock for the swine producers. Until World War II, and for a period afterwards, replacement swine were provided by a relatively small group of specialized purebred breeders. More recently, however, this function has been largely taken over by large "franchise" breeders, who took a page from

the poultry industry and developed systems of "nucleus" and "multiplier" herds, which has put Canadian commercial swine quality at the top in the world.

2.2.1.2 The structure of the beef industry

The beef industry structure is more complex than that for pork. As opposed to pork which essentially has only one product, the 200 pound pig, the beef market needs calves, cows, bulls, choice quality steers and heifers and quantities of manufacturing quality beef to match its various and changing markets. There has been a great dal of rationalizing occurring int he industry, and non assurance that it will not restructure even further.

In the packing sector, older plants have either been refurbished or closed, with the most change being in Ontario which has lost its position as the focus of the Canadian beef slaughter industry. There are only two packer/processor plants in Canada, at Brooks and High River, Alberta, which could be classed as "world class" for scale of operation. But in the United States, there are a number of even larger plants that are able to effectively compete with Canada for live Canadian cattle.

The feeding of cattle for market in Canada is gradually being dominated by the large feedlot industry (5,000 to 40,000 head capacity) and centered in southern Alberta. This has left the farmer-feeder with the alternative of "backgrounding" calves (feeding a growing ration between weaning and the beginning of finishing) for the feedlot industry.

The cow/calf industry has not changed its organization greatly over the years. It is still a phase of the industry which is tied to the availability of cheap crop aftermath and native forage at the location of the farm or ranch. As a consequence, the average herd size is still less than

fifty head in both Canada and the United States. And even though there are large ranches in the natural grasslands of the southern prairies and foothill areas of Alberta and British Columbia, the largest volume of cattle come from farms.

What has changed in the primary production of beef cattle, is the number of breeds that have been added to the basic Hereford, Angust, Shorthorn population in order to increase size and growthiness and capture the benefits of crossbreeding.

2.2.1.3 The structure of the grains industry

The cropping industry that has concerned the First Nations people, like the non-native farmers in recent decades, has been concentrated on the exportable grains; wheat, canola, and barley, mainly. This industry is driven by export price and demand, and major increases in productivity have been necessary to offset the increasing costs of production and the lowering returns per bushel (Appendix 1). Increased acreages per farm, increased tractor power, the increased use of chemicals and improved varieties have been essential for native and non-native producers alike, to compete. There is no suggestion that this trend will change, as it has been more or less continuous since World War II (42)(29).

Average Size (acres) of Farm, Canada, Eastern Regions and Western Provinces, 1941 to 1986

							% Change
	1941	1951	1961	1971	1981	1986	194-1986
Maritimes	116	123	163	205	233	248	+113.7
Quebec	117	125	148	176	194	217	+ 85.5
Ontario	126	139	153	160	181	192	+ 52.3
Manitoba	291	338	420	543	639	700	+140.5
Saskatchewan	432	550	686	845	952	1,036	+139.8
Alberta	434	527	645	790	813	883	+103.4
B.C.	153	178	226	316	269	312	+103.9
Canada	237	279	359	463	512	572	+141.3

Hay, David and G.S. Basran (29)

It is quite clear, that for a native farmer to be competitive, he/she would have to have a Band Council Resolution (BCR) or Certificate of Possession (CP) which reflects the increasing land size requirements, which, in turn, matches the nature of his or her production. In addition, these producers would have to pay rent, and have access to larger equipment and facilities than ever before, as well as the assistance through up-to-date advice and materials from the farm service industry.

Currently, the grains industry has come to recognize that the market is not likely to be consistently favourable for the export of the traditional crops (particularly wheat). As a consequence there are many adjustments occurring, including switching to other crops with more promise of markets and learning to manage and acquire the equipment necessary to handle these new crops. As well, there must be a recognition of some shifting in marketing strategies. Grain

farmers are also increasingly involving themselves in a number of value-added enterprises, including cattle and swine production, production of game and exotic animal species, high throughput elevators, and even fuel ethanol production integrated with the beef feedlot industry.

The reserve lands suitable for extensive grain production, plus the new purchases involved under the Treaty Land Entitlement, will have to be managed with consideration for the above changing climate for cropping in mind.

2.2.2 The Changing Trade Situation

When the Treaties were signed between the First Nations and the Queen, there really was no other power on the political horizon that required it be anything but a bilateral agreement. The result was that for better or for worse, the manner of fulfilling those Treaty obligations and maintaining a subsistence way of life, was a two-way communication. Over time, however, the influence of the provinces has altered some of the balances, and definitely the influence of the wider aspects of global trade cannot be ignored.

Mention has been made already about the power of the few conglomerates that dominate much of the world trade in food. The ability of individual producers to compete independently in that atmosphere has become extremely limited. Such situations do not exist very long, however, before some reaction commences, and already the counter organizations are being formed and tested. Some have described the producer reaction as "bargaining associations" in which the producers, large and small, band together to have a voice in determining the conditions within their industry. In part, this occurred many years ago in Canada's grains industry with the creation of the prairie grain co-operatives and the central desk selling mechanism, the Canadian

Wheat board. The organizations for exporting dehydrated alfalfa are learning to co-operate and the central desk marketing of swine also illustrate the principle.

Native farming endeavours, whatever their size, must accommodate and take advantage of the larger forces in the market place. In turn, this suggests positive actions should be taken to ensure that people carrying forward native interests, have a voice in the appropriate organizations, (eg., Sask. Pool, Canadian Federation of Agriculture, Canadian Cattlemen's Association, etc.).

The Canada/U.S. Free Trade Agreement (CUSTA) has generally been neutral or favourable for the export of agricultural products to the United States. Although it is difficult to separate out what would have occurred, from that which CUSTA has fostered, the trade with the U.S. in cattle and hogs and now oats, durum, spring wheat and canola is a substantial part of the Canadian farm income. What can be said, however, is that the CUSTA has put the Canadian farm system in a position of direct competition, in which it must either match or excel that of the United States, commodity by commodity. This is reflected in the changing scale of food processing operations in Canada, in the size of our beef feedlots and swine operations, and in the improving speed and efficiency of marketing and transportation.

For both the established and the beginning native farmer or Band farming project, the current trade realities underline the need to have the feasibilities of any new project carefully prepared, and to have the management skills in place which can meet the competition, before putting out investments.

The North American Free Trade Agreement (NAFTA) underlines the changes brought on by the CUSTA. What it does promise specifically is a second market for some of the farm

products now going mainly into the United State market. Economists have warned that depending to heavily on only the United States market has a high risk. One of the new markets in Mexico is for pork, and along with similar growing opportunities in the Pacific Rim market, some Bands may consider investment in a major swine enterprise.

2.3 THE MAJOR PRODUCTION SYSTEMS

2.3.1 The Grains Industry

The grains industry has been based on individual farms, largely worked and managed by a single family, and equipped to match the particular crops produced, and the land size. This promises to be the pattern for the future as well, even though overall farm size and capitalization has been increasing.

The skills required to operate a farm are changing dramatically. What was once just common sense and had work, has become an ability to handle sophisticated machinery, an in-depth knowledge of chemicals and crop varieties and a significant ability in business management. The result is a growing dependence on off-farm specialist services extending from the professions of law and agrology to the information provided by chemists and engineers through their products. The native farmer is not excused from these changes and must have a channel for receiving information and high technology supplies.

A structural change which is developing in the grains industry that should be of special interests to the Bands and individual native farmer,s is the trend to use custom field contractors. The cost of new and larger equipment and facilities have made the profitability for many beginning farms very marginal. However, the judicious use of custom field equipment

contractors can make for a more positive cash flow. The new land acquisitions under Treaty Land Entitlement, underlines the need for planning and the possible use of contractors as opposed to leasing the land to established non-native farmers, or of purchasing full lines of machinery.

2.3.2 The Beef Industry

> "Although most feedlots function to efficiently feed cattle to slaughter weight at a profit, Pound-Maker Feeders Ltd. has an additional purpose. Not only does it function to efficiently feed cattle, but it does so to create a market for grain". Susan F. Blair (4).

The above quote could be used as well to describe the cow/calf phase or the backgrounding or even the seed stock production sectors of the beef industry. The production of beef cattle is primarily related to the use of crop aftermath and the grazing on the untillable acres. That makes it a prime consideration for development on most reserves on the prairies.

Some imply that natives, more than others, are more naturally cowboys, and, therefore, they should raise cattle. Of course that is wrong, although on the other hand, natives are no less able to be successful cattle raisers, either. Some fine herds of cattle are owned by natives, but generally the beef projects have been disappointing. The probable reasons for lack of success were;

a. The management of the pastures was not planned in advance, the workers were not sufficiently experienced and/or committed, and the winter feed supplies were inadequate.

b. A lack of enthusiasm by the Band for the beef projects as indicated by their quick discouragement following initial setbacks, reflects inadequate promotion among the Band members leading to lack of commitment.

c. Investment in cow/calf production takes at least three years to show much return, so startup and bridging funds must be set aside, though they seldom are.

Even beef cattle, one of the simplest species to manage, will respond to high levels of management. The price for beef cattle is cyclic, so only those beef operations that are well-managed and geared to long-term average returns will prosper. In the following model, the returns to investment, management and labour ranges from an annual loss of $8750 to a profit of $36,875 on one hundred cows, depending on achievable improvements in management.

Effect of Management On Returns From A Beef Herd

Assume; 100 breeding beef cows,
a 60% calf crop,
$1.25/lb for fall calves
350 lb weaning weight, and
$350/year cow overhead.

Therefore;

(60/100 x 100) x (350 x 1.25) - (100 x 350)

= -$8750.00

But a better calf crop would result in -

(70/100 x 100) x (350 x 1.25) - (100 x 350)

= $4375.00

An even better calf crop would result in -

(90/100 x 100) x (350 x 1.25) - (100 x 350)

= +$4375.00

Getting the weaning weights up would give -

(90/100) x 100) x (450 x 1.25) - (100 x 350)

= + $15,625.00

Using crossbreeding might get even better weights -

(90/100 x 100) x (550 x 1.25) - (100 x 350)

= + $26,875.00

But, good use of cheap on-farm feed lowers cow costs -

(90/100 x 100) x (550 x 1.25) - (100 x 250)

= + $36,875.00 return to investment, management and labour.

Class Notes; AN SC 11, Univ. of Sask.

The initial investment in cattle for a cow/calf operation can be a limiting condition for either an individual or a Band project, which has led to several DIAND sponsored programs to offset part of the cost. However, there are other ways of doing it, that can be appealing under some circumstances.

a. A number of Bands have accepted off-reserve cattle for summer grazing, at a fee.

b. Still others have taken part in provincial cow/calf programs (Feeder Associations) which underwrite the loans for cows (this program is more commonly used to acquire capital for feeder steers).

c. One of the growing possibilities is to contract with larger feedlots to "background"

(feed calves for a growing period, from weaning until approximately 700 to 900 pounds). This is a lower risk, lower capitalization approach than operating a small feedlot. The management and facilities requirements are also lower.

The finishing of cattle to market weight and grade is becoming much more specialized and responds to efficiencies of scale. A number of Bands have examined a feedlot enterprise but have been reluctant to make the investment required to be competitive. It has a very high requirement for both startup and operating capital and is very risk prone due to market price fluctuations. The management skills to purchase cattle, provide the feed, manage the cattle, offset the risk with futures and option contracts, and, particularly to market them effectively, are very great and take considerable time and training. On the other hand, feedlots use workers who must have special skills for handling cattle, and this need has been successfully filled by natives with only a short training period.

Even more interest has been generated recently in the possibility of integrating a fuel ethanol plant with a large beef feedlot. The interest in ethanol production as a possible environmentally friendly additive or substitute for fossil fuels, has the advantage of using grain which is surplus. It also generates a byproduct, the distillers grains and the stillage waters which can be used for livestock feed. In addition, the integrated fuel ethanol/beef feedlot industry has a requirement for additional grain and green chop for silage making, for the cattle.

But a fuel ethanol industry requires that governments examine the regulations that might be needed and whether there are startup assets indicated. Clearly, both the energy and grains industries are already heavily regulated and have royalties and subsidies as part of their systems.

The current enthusiasm for a move to ethanol production from grain, stems from the

simplistic view that there are regularly feed grain surpluses, and that there is reserve capacity to produce even more grain. Added to this logic are the advantages of using ethanol as the additive of choice as an octane enhancer for gasoline. Since ethanol lowers the carbon dioxide emissions from a gasohol mix it is favoured under environmental pollution rules.

Not to be discounted are the additional benefits of the cattle manure for spreading on land. The jobs created at the ethanol plant and feedlot as well as in the local service sector are very attractive to the community. The shift from grain production only, to farms including a forage rotation to provide the green material for silage for the feeder cattle is very environmentally friendly.

For Bands, the problem of entering the ethanol production industry, when and if that market develops, is one of both capital and management. The building of the facilities can be contracted form firms that specialize in such developments, but the initial managers of both the ethanol plant and the beef feedlot would realistically have to be largely from the non-native community.

In order to capture the significant benefits of tying an ethanol plant in with the land base on a reserve a Band may find it advisable, after a thorough feasibility examination, to seek a joint-venture with another Band or more probably with off-reserve interests that specialize in such activities.

2.3.3 The Swine Industry

The domestic and continental pork market has only the human population growth to depend on for expansion. The per capita consumption of pork is one of the most stable of the

meats and recent evidence would suggest it can compete for the consumers expendable income in direct competition with the beef and poultry producers. In fact, the swine industry has done a remarkable job in adopting efficiencies that have allowed it to retain this constant share of the North American consumers available income. while poultry has surged ahead in quantities consumed, and beef has struggled for its share.

The expansion of the Canadian swine industry has resulted in Canada exporting almost 30% of its production to the EU.S. At the same time, the U.S. has become a net exporter and, along with Canada, is responding to the rising ability of the Mexican and Pacific Rim markets, to pay for imports of pork products. All indications are that these markets will surge in the near future, providing a strong incentive for the Canadian swine industry to expand production even more and maintain its international reputation for high quality pork products.

As mentioned earlier, the future development of the Canadian swine industry is involved in the way that the swine processing industry chooses to organize. It was recognized in the 1970's that, in both central Canada and on the prairies, there was slaughtering overcapacity. Some consolidation of ownership and closure of older facilities has improved the situation, however the direction that will be taken, particularly on the prairies, if some production increases occur, is not at all clear. For example, Manitoba is almost out of the swine slaughter business, alberta has had a long running argument about control of the slaughtering aspects of the industry, and, further, more, its two major plants are in the northern half of the province. In Saskatchewan, while the processing sector is adequate to meet current demands, there would have to be a decision about major expansions or construction of a new, larger facility if the numbers being slaughtered in the province increased as recommended by a number of industry leaders.

But a complicating factor is the ability of the large plants in the United States to draw live hogs out of Canada rather than dressed pork, into that system. With live hogs moving hogs south out of the prairies, particularly during periods when the dollar exchange rate favours the U.S> buyers, the very efficient and modern plants just across the border can and have destabilized the Canadian pork packing industry. Although the success of the Canadian swine processing industry does not directly concern the producers, indirectly, without a strong Canadian presence in slaughtering and processing, the alternatives of integration, contracting and even exporting offshore is much diminished.

The centre of the Canadian swine industry which had moved into central Canada in the post-World War II period under the incentives of Feed Freight Assistance plus some provincial assistance, particularly from the Ontario and Quebec governments, has been shifting back to the prairies. A number of factors are involved; the removal of Feed Freight Assistance except for "Quebec City and beyond", a period of low priced feed grains on the prairies, (55), the persistence of the Hutterite colonies in producing swine even in the market down-turns, the need for an alterative to producing wheat for export, and increased pork-export opportunities.

In this recent period the industry has changed dramatically. The introduction of much improved disease control programs, the increased sophistication of the feeds industry, new hog building and management designs and a much improved source of breeding stock, has led to a more stable industry. The proportion of small-scale producers, formerly termed "the in-and-outers", has greatly reduced and the scale of the remaining operations has increased form less than fifty sows, and now the industry leaders in Canada are building barns for five hundred sows or more.

It has become clear, that throughout the North American swine industry, to remain competitive, a producer must be technologically close to the leaders. This means that scale of operation, technical inputs, and level of management, as well as marketing skills, must be of the highest calibre. Unfortunately, there is little or no room in the industry for the very small, "back-yard" producer. For the native community, it will mean that, to the extent that the swine industry is important as a development strategy, that the project will have to begin close to the top, based on careful feasibility studies and appropriate business plans, as well.

Experience has shown, that when developments occur, and the stakeholders are new to the industry, that serious difficulties rise with discouraging certainty. to avoid this with Band-based initiatives, it becomes certain that a central planning and advisory function is required specifically for the reserve situation. This might be on a provincial basis as has been the practice in the past, but regionally may be possible as well, as will be discussed in a later section. The objective would be to have skilled professionals on staff or available under contract to do the initial feasibility work. This would avoid duplication among Bands and ensure that planning was carried out effectively.

Large scale swine operations are capital intensive, technologically advanced, as indicated, and have a strict limitation as to location because of the need for official environmental assessments. In certain instances, a reserve location might be ideal because it may be possible to isolate it by the suggested one mile from built-up areas, provided, of course, that access to all-weather roads is available.

In the swine industry particularly, there has grown up a group of Canadian producer/consultants that can provide a large "turn-key" swine operation to interested parties.

This is a very new activity, but they are usually equipped to also provide initial management, possibly remain as an equity shareholder and attend to hiring and training staff with the necessary hands-on skills. It is strongly recommended that this avenue be investigated as the preferred alternative by any Band considering a swine operation in their development and diversification plans. A sample financial statement from a model 661 sow farrow-to-finish production unit is attached as Appendix (2).

2.3.4 The Poultry Industry

It is unlikely that many Bands would seriously look at a commercial egg or poultry meat enterprise. The problems of acquiring sufficient quota to make a feasible operation and the technical problems involved in developing and maintaining an operation would probably discourage most Bands and individuals.

But, the possibility of having a local operation to supply product for the local reserve residents presents some possibilities. The most obvious benefit, particularly for the more isolated reserves, would be the local supply for fresh eggs and poultry meats, quite possibly cheaper than could be obtained through the wholesale supply system. The additional interest is in what it can mean for training of the younger family members in accepting responsibility and in operating a business venture. Poultry raising is one of the more easily launched projects in a 4-H type program which will be referred to in a later section.

2.3.5 The Dairy Industry

Some of the same concerns that have been raised about large scale commercial poultry

operations on reserves can be applied to a dairy venture. There are native-run dairy operations, notably in Ontario, however, it would be one of the most unlikely activities for recommending for a new individual or Band project at this time. The dairy industry is beginning a major rationalizing and there are more likely to be the retirement of smaller non-native producers for a time than there will be for start-ups.

2.3.6 The Game Farming Industry

Interest in the Canadian game industry is growing rapidly. In many instances, it is recognized that the success of the early entrants has been as a result of the demand for breeding stock sold to the later enthusiasts. However, it would be unfair not to recognize the legitimate markets that have developed or potentially could develop for the production of game meat and such byproducts as horn velvet and hides. Very few general statements can be made about this industry since each species has its own peculiar advantages and drawbacks (Appendix 4).

The scale of game farming in Canada is reflected in the following table.

Estimated Population of Canadian Game Farming/Ranching
1991

	Elk	Fallow	Red Deer	Bison
British Columbia	0	20,000	0	8,500
Alberta	4,000	0	0	1,500
Saskatchewan	3,000	1,000	0	1,500
Manitoba	100	100	0	2,000
Ontario	1,000	5,000	3,000	2,000
Quebec	100	600	100	800
Maritimes	100	100	1,000	200
Total Canada	8,300	26,800	4,100	14,500

Source - Agritrends, 1992 (32)

To provide a comparison, the New Zealand industry which began registering red deer game farms in 1971, has grown, based on a strong export industry to $160,000,000, and strong increases in numbers, as indicated in the following tables.

New Zealand Exports to Ten Top Markets (kg)

Country	Year Ending Dec. 1989
West Germany	1,623,890
Switzerland	389,217
United States	387,891
Sweden	249,006
Australia	246,361
Japan	197,038
Netherlands	94,216
Denmark	75,453
Canada	74,965
Belgium	60,571
Total Ten Countries	3,443,608
Total All Countries	3,770,135

Source - Patterson, Personal Communication, 1993. (44)

New Zealand Deer Population Estimated to 1996

Year	Hinds	Stags	Total
1989	521,150	258,916	780,066
1990	622,180	280,613	902,793
1991	774,849	356,815	1,131,664
1992	943,565	454,679	1,398,244
1993	1,153,424	567,743	1,721,166
1994	1,395,077	702,281	2,097,358
1995	1,658,961	860,062	2,519,023
1996	1,929,769	1,042,609	2,972,379

Source - Patterson, Personal Communication, 1993. (44)

The specific provincial regulations concerning the raising and the sale of each species must be considered by any potential investor. The existing rules should not necessarily be considered a guarantee of consistency either, since governments are particularly susceptible to lobby pressures from special interest groups who both support and conflict with the interests of those commercializing game species. On the other hand, strong industry groups are beginning to represent the legitimate interests of the serious game farmer. So as not to minimize the concerns by society for the expansion of the game faring industry some of the issues being debated are:

a. The possible genetic contamination of wild stocks with game farm escapees (argued particularly as a concern with elk).

b. The possible importation and eventual release of exotic diseases and parasites which will attack Canadian representatives of the same species or other species if they are susceptible. (The importation of Red Deer into Ontario, reported with Elaphostrongylus cervi, is a recent example).

c. The public's emotional reaction to "farming" of species that are normally considered to be part of the "wild" fauna.

d. The separation of the commercial flow of meat products from the more common domesticated species, from that of the "exotic" sources. (This is a long standing concern with horse meat and, therefore, becomes a consideration with other "look alike" meats such as that from bison).

e. The escape into the wild of species or subspecies not native to the area (Fallow deer, but more likely Red Deer, are possibilities).

f. The creation of a commercial opportunity for increased poaching of the wild members of the species that are also being farmed (including debate over native hunting rights).

g. The concern of farmers of the domesticated species, that the farmed game animals will become a reservoir of infection. (The T.B. and Contagious Abortion (Bangs) in the Wood Bison Park herd and the T.B. infections in elk are such irritants).

h. Then there is the festering issue of using farmed members of a wild species in a "trophy-for-hire" business, where the animals are raised to be hunted or more often, are aged and no longer useful for breeding and so become "trophies"/

New entrants to the game farming industry are faced with a heavy outlay of capital, first for breeding stock but also for facilities. There is a supposition by those unacquainted with general livestock production, that in some magic manner, the wild species will produce admirably with very little management or cost inputs. Nothing could be further from fact, because like all animal species being farmed for optimum production, they respond very directly to the level of inputs. Furthermore, each species, from the traditional domesticated ones such as cattle and swine, to the more exotic farmed ones such as bison or emu, have unique management requirements that will demand appropriate skills on the part of the operators (Appendix 3).

For Bands considering such developments, a part of the startup costs must be the acquiring of experience by those assigned to work with the wild species, or the hiring of persons with the skills. The high investment and often modest profit margins demands such risk

protection. One report indicates, for example, that the return on investment on bison herds ranges from 6.81% to 13.06% as the herd size increases from 50 to 500 cow/calf pairs. (32)

2.3.7 Specialty Crops

"Value-added" and "diversification", have become the key words in the planning for an economically sustainable agriculture. Value-added, to ensure that Canadian grown products go through one or more stages of refining or processing before being sold, and diversification to get farmers to produce crops that are not in price competition with the major exportable staples such as wheat, barley and corn. Even though the production of the common exportable grains is currently in disfavour because of low returns, crops such as tree fruits, fresh vegetables and grapes might not be viewed much more favourably in a feasibility study. These labour and capital intensive crops require very special growing and marketing skills, even though they do have high seasonal labour requirements which might attract a Band planner.

However, lentils, mustard, sunola, sunflowers, canary seed, caraway seed, ginseng root, and others, have become important crops for diversification, mainly under contract production arrangements. Many of these crops are very profitable provided a contract can be acquired and care is taken to manage and harvest the crop to obtain highest quality.

2.3.7.1 Wild rice

The development of the wild rice industry in mid-northern Canada, provides a good example of successful economic development by native people. The guidance of a strong extension program provided by SIAP, in cooperation with local individuals and Bands, has resulted in the development of an industry within the last decade in Saskatchewan which included

production, processing and marketing.

The production has grown from 60,000 pounds of green wild rice harvested by a few individuals in 1978, to a production high of 2.5 million pounds of green seed in 1990 by approximately 200 growers. The continued seeding of new lease areas, acquisition of airboats, proper harvesting techniques and favourable weather could generate 4 million pounds in the near future. This level of production would generate an annual gross income to the growers of approximately $2,800,000 in Saskatchewan alone.

A wild rice processing plant owned 85% by natives from across northern Saskatchewan was built in 1983 in La Ronge, Saskatchewan. This plant allowed the green wild rice, previously sold to Minnesota buyers, to be processed to a finished state within the province. The plant provided an incentive to growers as it focused much attention on the wild rice industry, created dozens of jobs on site, as well as in the supply and service industries. The result is a finished wild rice product for the marketers.

The native involvement in the market side of the industry occurred with the formation of SIAP Marketing Co. by SIAP in 1984. This company has purchased approximately 60% of Saskatchewan production since 1989 and has developed markets in Canada, the United States and in Europe. Annual sales by the company have grown to $2.4 million. The SIAP Marketing Co. is planning a value-added strategy and the introduction of non-wild rice products to its marketing portfolio.

The wild rice enterprise has flourished to a lesser extent in other provinces for various reasons, however, there is a Canada Wild Rice Council, which is a national industry association supported by the Canadian Aboriginal Economic Development council (CADES). The delicate

balancing of all factors in economic development including human, financial and physical resources is crucial to ensure success.

The information in Appendix (4) illustrates how a cottage industry has been developed, through skilful and persistent attention to organization and marketing into a very significant business venture that injects major amounts of income into northern communities. The model of maintaining good management-level staff who, in turn, provide information to participants and ensure a fair return to the rice farmers (harvesters), is worth study by others considering launching agricultural schemes. Merchandising a top quality product through the established market channels is the accepted strategy for native (and non-native) enterprises to follow.

2.3.7.2 Native herbs

Long before the Europeans brought their curative potions and flavouring herbs from around the world to Canada, the native people had discovered how to harvest and use many of the local plants for these purpose.s natives and non-natives are rediscovering the richness of this heritage, as they seek a simpler and non-chemical way of treating illness and flavouring foods.

The development of a medicinal, herbal industry on a scale found in Europe will require a close assessment of available herbal products, harvesting and processing technology, awareness of native sensitivity to commercializing historic Indian medicinal products, and of marketing needs.

The massive territory of the Canadian geography ensures a huge untapped opportunity in picking and gathering, processing and marketing of naturally occurring herbal and medicinal products from the forest regions of the country.

2.3.7.3 Wild berries

The raspberry, strawberry, cranberry and blueberry have already been drafted into the modern food chain through selected varieties, modern harvesting and glitzy advertising. Now the saskatoon berry and, possibly, even the chokecherry, have joined the rush to gain market share through commercial orchards and international marketing methods. Efforts are being made to take a leaf from the experience of the wild rice producers and capitalize on the organic/natural aspects of wild northern and native produced berries.

Much attention must yet be given to stabilizing annual production of native berries. Knowledge of how to influence growth factors related to plant and soil fertility, soil acidity, shading influences and moisture requirements, etc., are in their infancy.

Picking berries in remote areas bears the addition of high freight cots which can only be offset by further processing into value-added products. While Saskatchewan wild berry picking have reached 200,000 pounds per season for local markets, the production annually ha been extremely variable which is hazardous to an emerging industry. Such activities clearly depend for success on the fundamentals of good business management, and the application of sound agricultural research and practice. This type of development can profitably involve many aboriginal people who are unable to take full opportunity of the rapid pace of modern agriculture.

2.3.7.4 Tourism

Tourism hardly fits under the heading, Special Crops, except that one aspect is directed very much at the natural crop of huntable wild species. Certain of these animals, the white tailed

deer on the prairies particularly, are increasing in numbers to the point that it is clearly a harvestable crop. The situation begs a solution because they have become a nuisance to farming as well as to road transportation. To make it a value-added industry for the native farming sector requires much the same approach that has been developed for the horse pack-train and fly-in tourist industries, which provide a package type offer. Access to hunting, an experienced guide, the offer to arrange for housing and meals, and the atmosphere of the untamed country is what will draw the clients from Canada, the U.S., Asia and Europe. It is a cooperative activity with the provincial tourism departments, who will assist with advice and provide access to widely distributed advertisements.

As mentioned in an earlier section, there is the problem lurking in the background that the hunting of animals, that are even partially confined and managed, will be attacked by animal protection activists and then by legislation.

2.3.8 The Horse Industry

There can be little doubt, but that the horse has a special place in the culture of most of the western Tribes. Certain individuals have made an economic success of raising horses for a number of uses including racing, guiding, etc. It would be appropriate to point out, however, that the majority of horses on reserves have little productive value, to the point that many attempts have been made, where populations begin to threaten the grass supply, to reduce their numbers. There is a market for horses for the export meat trade.

One aspect of horse production that has become a significant opportunity on the prairies has been for the production of pregnant mare urine (PMU).

> "PMU farms are located in Alberta, Saskatchewan and Manitoba. The average farm has about 90-100 mares in production. Each mare produces 3-5 litres of urine per day. In the pregnant mare, detectable levels of estrogen appear in significant concentrations at about day 100 of gestation. Levels continue to increase to between days 200 and 275 and then they gradually decrease..."
>
> "All PMU producers are under contract with the pharmaceutical company (Ayerst Organics Ltd.)...producers average $1,300-$1,400 per mare per year..." (Burwash, Animal Production in Canada, p. 148.) (1)
>
> The PMU industry is a completely contracted industry. Ayerst Organics,
> A Division of Wyeth-Ayerst, Canada Inc.,
> 720 17th Street East
> Brandon, Manitoba
> R7A 7H2
> (204) 728-1511

There has been considerable expansion in recent years as the demand for Premarin, the final product, increased, and is expected to be in even greater demand. It is also an industry with rigid standards,m and so a Band considering such an activity would need to have the required facilities and expert management in place before being accepted.

2.3.9. The Fuel Ethanol Industry

As mentioned previously in the section on the beef industry, there is interest in fuel ethanol production as a possible environmentally friendly oxygenate or substitute for fossil fuels and as an economic stimulus for the Canadian grains sector. It is receiving intensive attention by farming communities on the prairies and in Ontario. It should interest Band councils seeking ways to optimize the use of their agricultural resources.

Any one of the following sections could justify an intense study by a team of specialists. There are politically sensitive aspects as well as technical issues associated with the production of ethanol which require some judgement. The current enthusiasm for a move to ethanol production from grain, stems from the simplistic view that since there are grain surpluses and there is unused capacity to produce grain, those are reasons enough. But there is also the environmentally friendly opportunity of switching to continuous cropping with the softer varieties of wheats which are favoured for ethanol production and that has some agronomic benefits. Added to this reasoning are, as previously mentioned, the advantages of using ethanol as the additive of choice as an octane enhancer and because ethanol lowers the carbon monoxide and dioxide emissions in a gasohol mix.

Using Saskatchewan as an example, because it has the greatest concentration of grain producers, the more than 600 million gallons of fossil fuels burned per year, if mixed with 10% ethanol would produce a new market for approximately 40 million bushels of wheat. Then, the distillers grains and stillage water produced as a by-product, if fed wet to beef cattle, would require 400,000 head or slightly more than the total current number of feeders produced in that province. There are other ways of using the spent grains of course, such as drying and selling them as dried distillers solubles. Using cattle and ethanol in an integrated system, puts the immense economic potential of ethanol production for use at the 10% level in gasolines into the mega-project category.

Expressed in another way, the above use of ethanol in Saskatchewan would wrecker 20 to 30 ethanol plants the size of the one currently in operation at Lanigan, Saskatchewan, (Poundmaker Ventures Inc. -- 10 million litres of ethanol per year and a 16,500 capacity feedlot).

The implications of conceptually having a 10 to 20 million litre ethanol plant and an associated 15 to 20,000 head capacity feedlot every 100 kilometers in Saskatchewan gives a measure of the potential impact on rural communities, let alone the farms producing the grain and cattle. (51) Using the national figure of 34 billion litres of gasoline used annually, a 10% ethanol mix and assuming a 10% penetration of the market in the foreseeable future, the requirement would be for 85 million tonnes of grain. (33)

Another aspect of ethanol production, produced in medium scaled plants and associated with a feedlot industry, is the source of capital and the corporate organization. The benefits are more than simply the profitability of the ethanol and cattle, but includes the stimulus of secondary industry. And, if the funding is from the local community or the Bands, then the sustainability of the industry is likely more certain and ongoing than if the investment and control is from distant investors.

Not to be discounted are the additional benefits of manure for spreading on land, the local jobs created and the shift in production from monoculture grain to a forage rotation to provide the green material for silage for the associated feeder cattle.

There are several jurisdictions involved in the ethanol industry, including; the provinces, the federal government, the U.S. (because they have a much greater ethanol industry already in place), and by association, the tropical ethanol producers (whose production costs are lower). Taxation and subsidization, along with the potential for a government to mandate a level of ethanol use makes ethanol a very politically sensitive industry.

The following items are key to any policy decisions:

a. One of the most often heard suggestions is that government (federal or provincial) should mandate the introduction of ethanol as a fossil fuel replacement. The octane enhancement capacity of the oxygenates, ethanol or ethanol/methanol combinations, became more of a necessity when tetra-ethyl lead was, and when MMT will soon be, outlawed. However, the 10% level for ethanol in gasoline, which has become the generally accepted amount in the U.S. and is tending to be so in Canada, will require some urging.

b. There are some plausible ways for adjustments of cash flow in the system to compensate for the costs that mandating would place on the distributors; by removal of the federal excise fuel tax on ethanol, as was done in the April 1992, Canadian federal budget, or, reducing the provincial fuel tax on gasohols, at the pump level.

PROVINCIAL TAX EXEMPTIONS FOR ETHANOL (cents/litre)

	Gasohol	Ethanol Equivalents
Alberta	0.9	9
Saskatchewan	4	40*
Manitoba	3.5	35
Ontario	1.3	14

*now cancelled

c. There are good reasons for the governments of the prairie provinces to wish that the ethanol industry would develop at the community level, requiring a cap on scale of operations of perhaps 20 or 25 million litres/year/plant and being integrated with feedlots of no more than perhaps 40,000 head capacity. These would also appear to be reasonable limitations for any plants considered by Band Councils. Aside from the difficulties of capitalizing a larger unit, there are the direct benefits that can be captured from a small unit by the community (Band); the wet distillers grains will be used by cattle instead of having to be dried for resale, which makes the overall industry more energy efficient , and the smaller feedlots are more manageable environmentally.

2.4 RESOURCES

A reserve is a complex of resources, including the people and the location, as well as the soil, water, etc. Unless there is a complete cataloguing of these assets, planning is likely to overlook opportunities. As has been pointed out, (39) most reserves have functioned without adequate appreciation of the total resources under the control of the Band Council.

2.4.1 The Farming Environment

2.4.1.1 The soil

The lands on reserves that are suitable for agriculture vary widely. In addition, there has been considerable variation as to the development of these resources. Of course, development may mean different things to different Bands and Tribal Councils; for example, protecting land in its near virgin state for future generations, as opposed to optimizing the financial returns

through farming or other economically-driven activities. The level of development may soon become an issue as the demand for environmental-sustainability in Canadian industry moves from the period of activist-inspired publicity into its legislative phase. (19)

The native peoples, by their actions on specific projects reported in the press (eg., clear cutting timber in Saskatchewan, irrigation developments in southern Alberta), seem to bas as divided as non-natives over development vs. being environmentally friendly. Considerations such as chemical spills, damaging stream-beds or creating farm odours, that may involve the law now or in the future, are becoming yet another factor in the granting of loans for development.

> "...these societies (aboriginal peoples) existed in perfect ecological balance with the forest, the plains, the desert, the waters, and the animal life." John Collier, former U.S. Commissioner of Indian Affairs, from Taylor, p. 10 (53).

The above quote, may have been true in its view of the situation when the native population was so low as to have a negligible impact on the resources. However, many reserves today have the potential to severely affect the environmental balance through the impact of expanding populations, and the manner of introducing developments. Environmental impact studies are not an unreasonable requirement for inclusion in development plans, and if there is not an up-to-dat eland management strategy on a particular reserve, it would be highly desirable to complete one before proceeding with projects involving land, for any purpose.

Environmental assessment with respect to native agricultural developments, e.g., a large swine establishment, is not clear as to jurisdiction as there have been few, if any, test cases that are relevant. Several assumptions remain to be tested:

a) Clearly, the trust responsibility for reserve lands resides with the federal

government, and environmental assessments of on-reserve projects would come from Environment Canada via Indian Affairs. The provinces have general responsibilities concerning the mismanagement of land, however, and these rules would apply, certainly if effluent moved off the reserve, but quite possibly through general agreement between the senior levels of government where provincial acts were being breached on reserve lands.

b) It would be reasonable for the assessment procedures being used by the province on non-native areas adjacent to reserve lands to be also applied to agricultural developments on reserves, were the provincial authorities asked to do inspections.

c) Even though the authority question is seldom challenged by Agriculture Canada, it normally follows (PFRA is the best example) provincial regulations with respect to management of its projects and community pastures.

d) In the case of major projects that involve environmental considerations, e.g. dams and irrigation, normally both the federal and provincial authorities become involved in providing environmental assessments.

The following tables, were taken from Intensive Livestock Operations - Guide of Recommended Practices, Saskatchewan Agriculture and Food

Calculation of Animal Unit

Kind of Animal		Number which equals One Animal Unit
Poultry	a) Hens, cockerels, capons	100.0
	b) Chicks, broiler chickens	200.0
	c) Turkeys, geese, ducks	50.0
Hogs	a) Boars or sows	3.0
	b) Gilts	4.0
	c) Feeder pigs	6.0
	d) Weanling pigs	20.0
Sheep	a) Rams or ewes	7.0
	b) Lambs	14.0
Goats		7.0
Cattle	a) Cows or bulls	1.0
	b) Feeder cattle	1.5
	c) Replacement heifers	2.0
	d) Calves	4.0
Horses	a) Colts or ponies	1.0
	b) Other than colts or ponies	2.0

Minimum Recommended Separation Distance for Locating Intensive Livestock Operations

Population	Animal Units 10-50	50-300	300-500	500-2000	> 2000
Rural Residence	1000 feet	1000 feet	1/4 mile	1/2 mile	3/4 mile
< 100	1/4	1/4	1/2	3/4	1
100-500	1/4	1/2	3/4	1	1.5
500-5000	1/2	3/4	1	1.5	2
> 5000	1/2	1	1.5	2	3

The recommended separation distance from open liquid manure storage is 1.5 x the above distances.

Population	Animal Units 10-50	50-300	300-500	500-2000	> 2000
Rural Residence	305 m	305 m	400 m	800 m	1200 m
< 100	400	400	800	1200	1600
100-500	400	800	1200	1600	2400
500-5000	800	1200	1600	2400	3200
> 5000	800	1600	2400	3200	4800

The recommended separation distance from open liquid manure storage is 1.5 x the above distances.

Minimum Recommended Separation Distances for Manure Spreading Areas

From	To manure spreading areas: tilled within 12 hr.	To manure spreading areas: not tilled within 12 hr.
Rural Residence	1000 feet	1/4 mile
< 100 population	1/4 mile	1/2 mile
100-500	1/2 mile	1 mile
500-5000	3/4 mile	1 mile
> 5000	1 mile	2 miles
Water well or spring on land not controlled by the ILO operator	300 feet	300 feet
Watercourse or body of water not contained on land controlled by ILO operator and to which runoff water will not flow	100 feet	100 feet
Watercourse or body of water not contained on land controlled by ILO operator and to which runoff water will flow	100 feet	1000 feet

From	To manure spreading areas: tilled within 12 hr.	To manure spreading areas: not tilled within 12 hr.
Rural Residence	305 m	400 m
< 100 population	400 m	800 m
100-500	800 m	1600 m
500-5000	1200 m	1600 m
> 5000	1600 m	3200 m
Water well or spring on land not controlled by the ILO operator	100 m	100 m
Watercourse or body of water not contained on land controlled by ILO operator and to which runoff water will not flow	30 m	30 m
Watercourse or body of water not contained on land controlled by ILO operator and to which runoff water will flow	30 m	305 m

Using arable and grazing lands by Bands in an environmentally friendly manner is important simply for the eventual economic benefits. The leasing of land to off-reserve interests, which has become a major way of managing larger tracts of crop land or pastures, has a potential for negative impact on the environmental security of those lands unless the leases are long term, and contain clauses pertaining to the land management, and then whether the rules will be enforced.

The negative impact of improper management can develop quickly, as for instance through weed infestation or water erosion, or be reflected long term through changes due to the loss of organic matter and development of salinity. On grazing lands, there can be very destructive results that are not immediately evident if the grazing pressure is too great. The impact of overgrazing can be seen, of course, in insufficient plant carryover in the short term, but the more damaging change in the quality of the plant mixture may take several years to be detected by casual observation.

The solutions to maintaining or improving the soils are not always obvious or simple. The following quote indicates how easily one can suggest solutions, as for example continuous cropping, that actually require a great deal of understanding and technical inputs;

> "The problem of preserving soil quality - and, in many cases, restoring it - is daily becoming more urgent, particularly on the summerfallow-scarred prairies. Unlike other conservation issues, however, the solution to the summerfallow problem may not wrecker any trade-off between environmental preservation and economic gain. In fact, the most likely soil-conservation strategy is also the approach that would substantially increase national economic benefits form prairie agriculture-continuous cropping. Unlike a simple monoculture, where the same crop sis grown continuously, the continuous-cropping recommendation usually involves a soil rebuilding rotation of different crops. It is neither a simple nor a universal solution; agriculture requires combinations of methods selected for each specific soil-climate area. But as a general strategy, adapted to local conditions.

continuous cropping could be of great help. The conservation and economic benefits would not come cheaply or simply, since more research is needed. The economics of abandoning summerfallow will have to be conclusively demonstrated to farmers through multi-year experiments with various cropping methods". (19, p. 35)

2.4.1.2 Water

As most agrologists will advise, one of the first limiting factors in livestock operations is the availability and quality of water. The following table illustrates that a 100 sow swine operation will require at least 2000 litres of high quality water per day. A 10,000 head feedlot, on the other hand, will use 200,000 to 300,000 litres per day.

Estimated Water Consumption by Livestock

Class	Daily Consumption (litres)
Calf	10
Feeder steer	25
Beef cow	40
Growing pig	5
Sow	16

Calves and particularly young pigs are very susceptible to scouring (diarrhea) from drinking water with a high mineral content. Similarly, water fouled with fertilizer, manure or heavy metals are a danger to all ages and classes of livestock. As the first step in planning the location of a livestock operation, the quantity of water must be assured and the quality tested.

2.4.1.3 Transportation and location

For all but long-haul export grain and bulk fertilizer, moving farm production has shifted from rail to truck transport. An intensive livestock operation should be located close to an all-weather road since supplies and animals are moving in and out on a daily basis.

Where such developments occur on reserves, the cost of establishing and maintaining access roads should be a consideration in the overall cash flow because it can become a considerable amount. An integrated feedlot/ethanol plant may require as many as 15 truck deliveries a day of grain, and many times more for manure and green chop for silage hauling in the appropriate seasons.

The operation of a small truck fleet may be a useful secondary operation on a reserve which establishes a large beef feedlot. The feedlot's requirements for trucking serves as a good balance to the grain hauling for the area farmers which is usually the main use of rurally owned trucks.

While discussing transportation and trucking on and off the reserve, it is appropriate to at least open up the subject of bulk and retail gasoline and diesel outlets on reserves. Aside from the opportunity for a native-owned business venture, the taxation aspects strongly favour such development sin certain locations. A court challenge in British Columbia (47) established, at least for that province, that the fuel tax need not be assessed on native customers by the owner of a native-run service station on the reserve. It has also been determined that a station leased by a non-native could recover the fuel taxes paid to the bulk supplier, for fuel sold to natives. The Goods and Service Tax (GST), when it replaced the Federal Sales Tax (FST), did not flow through to native purchasers in the price of fuel as the FST had done. But now, native (and non-

native owned stations that meet certain criteria) are able to sell fuel to natives, less the GST.

3.0 LAND POLICY AND LAND USE

The authority to administer reserve lands is spelled out in the Indian Act and administered by the Band Councils in a trust arrangement with the Crown. In practice, the Band Council initiates the decisions that affect the individuals seeking to practice agriculture on his or her reserve. There has evolved several ways of allotting the lands being farmed:

a. A Band Council Resolution (BCR) identifies the land to be used by an individual. This may or may not be recorded through Land and Trust, in Indian Affairs being registered adds some security to the arrangement). There may be, but ordinarily there is not, a rent charged by the Band.

b. Traditional of hereditary ownership, which can become confusing after a number of generations, particularly if there is an expanding family base, or when relatively long term occupancy is assumed by the individual to have created a hereditary right.

c. Certificate of Possession, established by the federal government, which dates to the lands assigned to returning veterans from World Wars I and II.

d. Farmed lands may also be administered by the Band so that the returns (rent) whether from a native or non-native lessee, is credited to the Band's accounts.

Land tenure is the Achilles heel of the development of viable farm units on many, if not most, reserves. Even though the initial allocation of perhaps 160 acres by the Band Council may

still be possible, the opportunities for expansion remain difficult. Many Bands have introduced systems for improving the situation with some success, but the problems are far from resolved for the majority. It is the specific Band's decision on how to allot the land on their reserve and one system would not satisfy all situations.

There are conflicting objectives for land use between the current occupancy of available arable spaces by individuals for whatever purpose they desire (housing, farming, frontage on water, etc.), and the overall plan for development of the reserve lands that may be, and certainly should be available. Murdock McKay (39), recommends a careful study of the Land Use Policy developed for the John Smith Band #99 in Saskatchewan. He also notes that a group of reserves, representing several provinces, have made progress through forming a loose organization to study and cooperate on developing land use plans. (John Smith,Sask., West Bank, B.C. , The Pas, Man., Kamloops Band, B.C., Alexander Band, AB, Long Plain, MB., and Nipissing and Moray, ON).

The Importance/Need for Land Use/Land Tenure Policies on Indian Reserves

1. Reserve lands are commonly owned by all band members on each reserve. Therefore, all band members theoretically should benefit directly or indirectly from agricultural production and other forms of economic development that generate revenue.

2. In the case of Agricultural production, unless there is a land tenure system in place controlled by the elected officials (Chief and Council) production income is lost to the majority of band members.

3. The lack of an appropriate land tenure policy on many reserves limits or prohibits development of Indian farmers. A long term goal often cited by band officials, elders and band members is that all the suitable land should be farmed by Indian farmers with some form of revenue going to the band, thus benefitting all band members. Reserve lands farmed by Indian farmers provides self employment and often employment for other band members which enhances development of managerial skills and viable farm units.

4. The majority of Indian farmers find themselves on rather shaky ground, regardless of

whether they hold their land by traditional rights, BCR, CP or some other arrangement. The real problem is that history has shown throughout the farming area in Western Canada that it has taken 3 or 4 generations to develop successful viable farms with good farm managers and innovative operators. Historically, the good operators made economic gains during peak price periods and markets and sort of held on by maintaining or increasing in production during depressed periods. The stage farmers were at in their own business cycle often dictated their survival. The present arm situation (91-92) strongly indicates this phenomenon hasn't changed over the years. It is predicted by many that price and marketing cycles will continue even with numerous government type policies and programs attempting to establish some kind of safety net for farmers. Indian farmers are definitely more vulnerable to these kinds of cycles due mainly to being behind in establishing their own farms compared to outside farmers and in many cases the lack of the longer term land security on the land they operate. The Indian farmer sis also further handicapped in that the family cannot build up equity in land for their retirement or estate. Although the lands equity system cannot be changed (ownership) no doubt a longer term, secure land tenure system could allow Indian farmers to build up their tangible assets such as machinery equipment, buildings, livestock, land improvements, etc. for their retirement or estate towards assisting their family.

5. Land use planning is difficult and sometimes impossible at least on a sound basis without an adequate land tenure system. This not only applies to agricultural use, but all other uses such as housing, commercial development, forestry, fisheries, mining, tourism, recreation, retailing, manufacturing, etc. All areas can be more effectively planned and developed when a sound land tenure system is in place. Other financial investments and programs such as N.I.S.A., RRSP's, etc. could be used to replace land as a tangible asset.

6. Land is the major asset all bands own in the agriculture area. Land tenure is no doubt the key towards allowing sound land use through planning and control of the asset and is undoubtedly linked to other forms of economic development, i.e.: The La Ronge Band example. There are plenty of examples through Western Canada of Companies. Corporations and business owned by individuals who received their introduction to business and development on Saskatchewan homesteads and farm development.

7. With the establishment of some new reserves and the recent approval of land entitlement of an additional 1.5 million acres, land tenure and land management is now extremely important to the 27 Indian bands qualifying for land they didn't receive when the treaties were signed. The Chief and Council must have full control of land use and development.

8. Environmental issues have become extremely important over the past few years. Both Federal and Provincial Governments have established regulations and guidelines to help protect, improve and overcome environmental problems. In addition, organized groups and the general public look at and often question ongoing agricultural practices including land use, soil conservation, farm practices, etc.

It is imperative that agricultural lands particularly obtained under "land entitlement" are controlled by local Band government and used under sound Land Tenure policy that will allow optimum land use for the benefit of the Bands. A Land Use system that would head off and alleviate potential public, group and institutional criticism is a must.

9. The few Bands presently managing their own land have clearly demonstrated they are very capable. It has been demonstrated that the income from production has increased substantially, land use has improved and the cost for the land management and administration has been considerably lowered. The system under Land and trusts over the years has essentially lacked land management on a professional level. The major function appears to have been administration of Crown lands held in trust for the Indian people. In fairness, the system undoubtedly has a number of good features and many improvements have ben made in recent years.

10. Indian people have advanced significantly over the past 20-25 years through the development of the Federation of Saskatchewan Indian Nations, Tribal Councils, numerous programs operated by many Bands through the Chief and Council, the development of Indian education and other development and educational institutions. The overall improvement of the educational opportunities for Indian youth is creating a new concept of reserve land use and overall development.

    It follows, therefore, that the majority of the Bands in the agricultural area are very capable of looking at new ideas and ways of managing their own lands.

11. Indian self-government is expected in the future which greatly emphasizes the need for a fast track approach towards developing a sound land tenure policy, land use planning, and land management on each reserve. Bands will need strong local government with the ability to develop sound land use policies in all areas of land tenure.

12. Bill C-31 allowing significant increases in Band membership has added extraordinary pressures for Band Councils in many areas such as housing, commercial areas, farm land, etc. Sound land use planning is essential to properly accommodate this sudden change." (quoted from McKay (39), p. 19-20).

In extending the land tenure issue to the acquiring of capital and the involvement in non-native agricultural programs, it becomes clear that not having title to the parcel of land being farmed leads to confusion when native as well as non-native concerns are involved. The following quote from a study conducted for DIAND and the Province of quebec explains the situation.

> "The Indian Act, jurisprudence, the establishment of Indian reserves and, ultimately, tradition are based not on our (the non-native) concept of property ownership but rather the principle of usufruct. Under the aforementioned Act, an Indian in possession of a parcel of land may enjoy, dispose of, or surrender his usufruct privileges just as one can dispose of real property rights. The Indian holds a certificate of possession that confers such privileges upon him. It appears very clear that ownership of the property is in this case vested in Her Majesty the queen of Canada and that only the usufruct belongs to the Indian.
>
> It is therefore prejudicial to the Native person living on an Indian reserve to be required to own property in order to take advantage of the programs and measures available for this purpose. In such circumstances, he will never become eligible."
>
> -- Recommendations of the working Group on Agricultural Development - Coordinating Committee for the Implementation of the Canada-quebec Memorandum of Understanding on Native Economic Development. (11)

Most observers agree that it is unlikely that there will be major changes in the basis for the current system of land allotment in the foreseeable future. Individual reserves will continue to make the system more adaptable to farm enterprises but it forces any recommendations for changes in this report to be concerned mainly with altering the external system.

Possibly the most significant and beneficial change to the system of assisting native farmers from the time of the farm superintendents was focusing efforts through the establishment of the Indian Agricultural Programs. Unfortunately, the federal funding cutbacks have centered on these programs and so they are dwindling and disappearing. To state this is a serious blow to native agriculture is an understatement of the obvious. Some items to consider in this move are as follows:

a. To be quite candid, the initial cost/benefit returns from the investments in native farming have been low if measured by the criteria for development monies used in many other sectors of the economy. However, that the programs actually

caused a turn-around so that successful farmers now exist, where none were before, as a direct result of daring investments and loans, is positive. And, that Bands now take some time to address agriculture specifically, whereas most had not before the 1970's, gives encouragement to those responsible for working with the individual Bands. These initiatives will fade as monies are restricted and staff laid off.

b. The tie-in with the provincial extension services was a major step in giving natives direct access to information from specialists serving the non-native communities. This service is absolutely essential for advancement and will fade away as the budgets are being reduced, unless other provision s are made.

c. Certain projects, such as land clearing, establishing pastures and wild rice harvesting were planned and executed with professional staff managing the programs. There were small dedicated groups created in most provinces which could be identified when a new project was being planned. This is not to deny that private consultants do not serve a purpose, particularly where high priced and high tech projects are being established. However, much of the development on the reserves needs almost constant overseeing by trained people, in the very early stages and often well into the middle years of a project.

d. An opportunity was created for natives with some professional agricultural training to fit into a service at their level of competence, and to work with a critical mass of fellow professionals. This small, but critically important group of natives are being laid off and will be lost to the pursuit of agriculture.

This report will strongly recommend that this agricultural support service for natives be strengthened quickly before the staff and direction are lost. How to turn the course of bureaucratic history around will be difficult. Some of the considerations that should enter into the decision are as follows:

a. One suggestion (Francis First Charger, Standoff, AB) (23) was that Agriculture Canada should take on some part of this responsibility. The original division of powers in the British North America Act gave education to the provinces and Agriculture Canada has been reasonably careful in honouring this understanding. some specialized groups such as PFRA have the demonstrated ability to work directly with native projects on reserves, but that could not be generally said because of the way Agriculture Canada is structured.

b. On the other hand, the provincial extension services are trained for and involved in community development. If the funds are made available it makes great sense to continue to meld the two programs, provincial and native, on and off the reserves.

c. Having aimed the program implementation at the provinces, does not preclude the need to coordinate programs at least within regions and probably across Canada and this would be appropriate through a Council.

d. Recognizing the trend to accept greater authority by the Bands, it then becomes apparent that the native agricultural program work from the bottom up and with full support of the collective Bands and Councils or Tribal Councils, and so the

Bands can also accept responsibility for agriculture.

Until now, the first line of support for agricultural developments, as suggested above, has been through the use of professionals provided by some arrangement in each province to access the regular agricultural extension services. And as suggested also, the support for these arrangements is being reduced at a time when the need is accelerating. Some alternatives are needed to avert serious errors made by Bands' inexperience in the project areas being entered into. Some suggestions would include:

a. The most obvious move would be as suggested, to reallocate the funds intended to support the agricultural extension services to the lead native organization in each province where the program and arrangements had been functional. In provinces where the approach had not yet been successful the supports should be developed to appropriate levels. (See Appendix 5 for the process of creating SIAP).

b. As an alternative to the above, but more appropriately as an add-on where development has progressed well, it would be desirable to organize as group of Bands or as Tribal Councils, as has been already done in some instances, which were sufficiently large to hire their own professional staff to advise and coordinate specific agricultural ventures (eg; Blood Tribe Agricultural Project, Yorkton Tribal Council).

c. An even more advanced approach is to develop investment structures for the potential stakeholders, that need both financing and the infrastructure for agricultural projects, by involving specialized agencies (eg; Inpro West Investment

Corporation) (36).

d. A National Indian Agricultural Advisory Council, is required to coordinate the delivery of professional agricultural services to Native people. There exists a temporary Aboriginal Agriculture Committee, which operates under the aegis of Employment and Immigration Canada (16) which might well serve as the starting point for a rejuvenated ability to serve Native people generally, with the necessary agricultural support services. (Current committee members are listed in Appendix 6). Canadian Aboriginal Economic Developments (CADES) could be the logical funding base for this rejuvenated function since it is the agency now carrying the activity.

The above concern for a dedicated agricultural support structure for natives, adequately funded and staffed, but outside of the Band structure yet serving them, is quite possibly the most significant recommendation in this report.

4.0 CREDIT, CAPITALIZATION AND PROGRAM SUPPORT

The difficulties for individual native and Band projects to obtain adequate funding is so well recognized as to require little elaboration. The reasons involve difficulties in providing collateral, uncertainty about the viability of the projects and a mismatch of many programs designed for the general farm sector with the realities of native needs. This led quite logically to the creation of mechanisms within the federal government to deal with funding of native development. The trend, accelerating in recent years, has been to provide funds to provincially based structures, at varying distances from direct federal control, in order to make project support

more sensitive and to gradually transfer more authority to First National for selecting projects and administering development. This report will deal only with the very current situation since it is from this base that recommendations are to be made.

4.1 FEDERAL AND PROVINCIAL PROGRAMS

The most effective reserve-lands development programs have been under Agricultural Regional Development Act (ARDA), Special ARDA and the Economic Regional Development Act (ERDA). Not only did they bring into effective use lands that were underused for farming, but they required from advisors and the Bands some measure of land planning.

The basic assumption behind such land "improvements" is, that they will be used for cropping and livestock grazing, or sometimes other activities such as recreation, as appropriate. But, actual use normally requires a second stage of decision to allow the land by the Band and this has not always occurred successfully. In effect, the development objectives of the Band administration, and those desiring to pursue agricultural activities have been in conflict. The result is all too often an unsuccessful farming venture or lack of action.

It has been suggested that one part of a native agricultural eduction program would be exposure of Band leadership to the value of agriculture to their reserves and the means of arranging for more effective land use. (34)

The Farm Credit Corporation (FCC), has taken on an expanded role in that loans are now possible to non-farming activities but which services agriculture, or even further, may be in the value-added aspects of farm production. This has significant bearing on the possibilities for joint ventures between natives and non-natives. For a period FCC made loans to on-reserve farming

endeavours, fully guaranteed by the federal government. The experience was not favourable for a number of possible reasons; the economic climate was not conducive for farming at that time, the background loans were not well enough researched, the follow-up by the FCC or by agricultural extension staff was not sufficient. Or possibly, the FCC found it too easy to "walk-away" from a fully guaranteed loan. In any case, the FCC is again in a position to make loans to native investors, and time will tell whether lessons were learned from the previous experience. However, in view of the major cutbacks in support staff for native farm-enterprises, the onus will be on the FCC to ensure proper supervision of loans.

4.2 PRIVATE SECTOR FINANCING

Elsewhere in the report, considerable stress is placed on the opportunities for joint-venture projects to handle the management, marketing and capitalization of the trend to large projects in agriculture. Tapping such pools of capital, requires some innovative financial arrangements, possibly combining the private and the public sectors and several sources so that the risk is spread. Native projects have not attracted a great deal of attention heretofore from the non-native investment community, so that there will probably have to be some aggressiveness on the part of Bands that opt for heavily capitalized projects. However, many Bands that have the necessary resources to launch a large agricultural project will usually not also have the expertise to seek and arrange for financing.

The Indian Agricultural Committees were mandated to carry most of this responsibility in the past but, as suggested, that service is rapidly being reduced and dismantled as a result of funding cuts and reallocation. In any case, the Indian Agricultural Committee staff were usually

not sufficiently experienced in finance to handle such large enterprises as are now being contemplated.

Alternatives to the current situation would have to be self supporting:

a. The FCC, has many of the attributes; a large staff of agrologists, a relatively unbiased position in the market and experience in tapping large capital sources. However, the FCC would have to do some internal restructuring and training, to take on this new role of large integrated farm enterprises for natives. (12)

b. Inpro West Investment Corporation, has recently been spun off to..

> "...act as a catalyst for development by making minority equity investments in ventures that pursue agricultural diversification within the prairie provinces for the direct or indirect benefit of Aboriginal people and their communities." Mission Statement, p. 4). (36)

c. A number of Bands have taken the initiative of creating corporations to administer a project, or series of projects. They have provided themselves with some internal management expertise but have depended heavily on contracted professionals, lawyers, accountants, etc.

The chartered banks have had difficulties with financing projects on reserves, principally because of the collateral limitations. Some loans are made on personal recognition, but that requires the basis of a long period of successful farming.

5.0 AGRICULTURAL PROJECT MODELS

Developing farming operations over time and from example to example is a complex exercise. The accumulation of sufficient capital, acquiring the necessary skills, and making a decision to farm in a manner and location that is responsive to markets is always required. This

later point, of recognizing that the demands of the market must be met, irrespective of any other objectives, is critical.

The only manner of organizing in the beginning stages of prairie farm development was obviously, for and by the individual small-scale homesteader, or native farmer in the case of the reserve lands. There were some very large acreage farms attempted by individuals or groups o non-native sin the earliest farm development stages. But, they could not with the tools at hand, survive for long, because of the swing sin the production and marketing conditions that had not yet been minimized by government policies and technology. The Band based initiatives were usually much more modest in scale. They were inspired by the individual reserve superintendents, or the church, and somewhat later by the Band Councils, but suffered a similar fate as the large non-native farms for the same reasons plus some peculiar to reserve agriculture.

Jumping ahead in time, the current climate for farm development, now favours the larger operations for grain and for most livestock ventures. The small farms with a number of income centres were able to internally cope with more risk, and so survive as long s they maintained a modest expectation for income. But risk spreading has been shifted from farm family "belt-tightening" to government support programs and improved management methods as well as institutionalized marketed methods. Despite the ability to handle risk, the difficulties which increase with this larger-unit pattern of farming are the high requirements for capital and management.

5.1 INDIVIDUAL OPERATIONS

The family farm has almost become an icon for the majority of prairies farmers. The same cannot be said for the native situation where some reserves are loath to assign sufficient land to an individual to ensure some security and opportunity to grow into a viable farm operation.

Some are more inclined to view with justification, that the reserve lands are a place of residence and a resource to be shared by all band members in perpetuity. The purely economic arguments for supporting individually owned and operated farms over Band farms (on or off of the reserve) can be presented with conviction, but there are the counter argument which stem from the organization of reserves and requirements of maintaining the trust relationship with DIAND.

The most telling economic argument centers around the contribution that several successful farm families have in maintaining a viable community, and all that, that implies for infrastructure. But many, if not most, of the reserve communities have a reason-for-being which is quite independent of the commercial activities, or numbers of individual farmers or agricultural Band projects that might generate income.

Some individual native farms have been operated very successfully, despite the initial difficulties with acquiring the Band Council Resolution (BCR) for sufficient land and then gaining access to capital. But, it is common knowledge that large, successful individual farms on reserves based on the profit generation model, after often considered as being something less than desirable by many of the remainder of those on the reserve, because of the cultural viewpoint about sharing. There are some basic questions that must be answered by each Band;

a) Whether the arable land is considered as a means of maximizing returns for the benefit of the Band members

b) Whether all or part of the arable acres should be retained for Band projects or alternatively assigned to individual member,s or in fact whether they can in part be assigned for joint-ventures with non-natives or with other Bands.

c) Whether it is preferred that all lands remain as part of a larger management plan to

provide a traditional residential area.

As emphasized before, these quite correctly are individual Band decisions on development.

One alternate objective for individual farms on reserves as opposed to the profit motive suggested above, is that they may be considered to be permanently non-commercial and non-profit. This means that as an end-point they are intended to be only minor income generators to add to other income sources. This could occur through gardening, have a few animals or a small field operation. It is not an entirely illogical objective under some circumstances, where other income generating activities are available. But this justification for individual reserve farm policy, if it exists, should be recognized for what it is, rather than assuming that by some evolutionary process the small holdings will eventually become an important income source. They seldom do. Perhaps they should carry a categoric identification such as "residential farms", or "small holdings", indicating that the primary function is as a living space.

There are additional considerations when a farm is small, including, having much the same training and need for timely information as the full-scale venture. Also, the necessary infrastructure such as, community pasturing to accommodate many smaller herds and equipment sharing where any one operation is not large enough to carry a full line. Even the decision to have a collection of non-viable individual farming units requires careful planning on the part of the Band Council.

5.2 BAND PROJECTS

Band agricultural projects range from beef cow/calf operations to game farms to grain operations. There is little to differentiate them from similar activities in the non-native sector except that their success rate has been very low. Difficulties usually include inconsistency of attention to management, insufficient rewards to maintain enthusiasm, or a lack of commitment to the project on the part of all of the Band members. In fairness, many of the projects were not intended to be more than a tentative

means of creating jobs and possibly to supplement local food supply. As such, any benefit could be classed as success, although cost/benefit analysis often provide discouraging pictures.

Although they would barely rate as projects, some modest success has been achieved with community pastures on reserves and cultivated crop land, leased no non-natives. This objective was greatly enhanced through the land-clearing provisions of the ARDA and Special ARDA programs of past years. Such activities take a minimum of administration on the part of the Band. If there are long-term non-native lessees, they are likely to manage the land and/or the cattle well enough to show a profit for themselves as well as paying the rent or crop share on a sustainable basis.

The individual natives using these pasture areas may be obliged to pay a grazing fee in some cases, but there is little incentive for them to consider pasture improvement or careful grazing management. It is not surprising then that Band Councils, despite their stated desire to have Band members developing the reserve farming resources, find that it appears better in the year-end accounting to have non-native lessees grazing the pastures and tilling the fields.

One can appear to be wise and suggest the situation should be dramatically changed so that native farmers sincerely wishing to farm are the most attractive land developers for much of the land on their own reserves. But, there are many internal conditions to each Band and to the national scene of native politics that may blunt this logic.

In passing, it is difficult not to make a comparison between Band agricultural projects and the activities of the Hutterite Brethren, colonies. Both are organized for the common good of the group, although the Hutterite approach in practice is much more disciplined as to the input required from each individual. As suggested by Hostetler, "Colony work is patterned according

to the season. The leader plans ahead and provides enough work for all males during the entire year" (31, p. 182). It is risky to continue making the comparisons, other than to point out that, in both instances they are organized substantially apart and differently from the majority population, both physically and culturally. The success of the Hutterites in operating large grain, poultry and swine operations may be a model to study, particularly since they have clearly been able to adjust to industrialization without apparently forsaking their cultural strengths.

There are three factors which appear to be essential for the Hutterite's commercial agricultural activities to be successful.

a) The management for a particular farm enterprise is assigned to one or two specific individuals who have complete day-to-day responsibility, are appropriately trained and experienced, and have call on additional labour and capital from the remainder of the colony when required.

b) The operations are scaled to be optimum for efficiency.

c) The management is tied in firmly with the general supply of services, extension information and the market system in the majority community.

For a group, such as a Band or Tribal Council to make changes from one system (the traditional) to another (the market, profit generating approach), there are risks which must be balanced with the potential benefits. This means, in effect, that the group and the individuals in the group must reflect on whether the cost of seeking alternatives will be less than the energy required to cope with current problems (9). Whether the younger generation within a Band are prepared to seek change may be governed by the balance suggested by D.W. Stephens (9), in the following diagram;

	Within Generation Persistence (ie: peer concern)		
Between Generation Persistence (ie: son over father level of concern)	Low		High
	Low	Fixed	Learn
	High	Fixed	Fixed

In the current context, from the above diagram it may be inferred, that the only time the younger generation will make a major effort to take on the trappings of modern agriculture will be if they become more concerned with improving their own future through the benefits of agriculture, than staying with whatever certainties there are in the current practices of their parent's and grandparent's generations. In effect then, to make change they would have to match a lowered acceptance of the current conditions and ways of providing themselves with an income while discarding the practices of their parent's generation. This requirement is certainly not insignificant so, for there to be increased numbers of native farmers and investors in land based activities, there must be an intensive education process and exposure of the young men and women of the Band to practices and opportunities that would act as an incentive. As has been pointed out, if there is a lack of identification by the majority living on a reserve with establishing, as a priority, a vigorous farming community it leads automatically to a decline of consideration of farming activity by the Band administrators, in a "catch 22" cycle. (52)

5.2.1 Cooperatives and Corporations

There are some specific differences between a cooperative and a corporation as an organizational vehicle for development. In general, a cooperative functions best when providing a service for a group, such as a retail store, in which the level of involvement is the choice of the individual member, but the benefits are determined by the level of patronage. Another would be the grain marketing aspects of the Canadian Wheat Board in which the patrons share in the benefits through a production quota or a contract that is equally available to all.

Cooperatives have also proven their worth in instances where a project will benefit the group eventually, such as a small irrigation project or a community hall, but the inputs are mainly voluntary and are based on the individual's ability to contribute. The administration is based on one vote per individual, rather than on their economic or voluntary contribution.

> "A co-operative is a form of business, incorporated for service rather than profit to meet the economic, social or cultural needs, owned by the members/users and controlled by them on the basis of one member-one vote through an elected board of directors charged with responsibility for management carried out by the paid staff. Members all share charges and risks. Savings, after allowance for general reserve, are generally distributed on the basis of use of services by members irrespective of the level of individual investment". (6)

A corporation, on the other hand, involves one vote per share with the shares based on a specific economic contribution. The corporation is the more generally accepted vehicle where the individual or institutional investments differ or are difficult to define, or balance. It provides more precise measures of risk and returns and also is more easily managed over longer periods when shares involve facilities or land, and may have to be sold or otherwise transferred. Joint ventures between Bands or Bands and non-natives would almost essentially be managed as corporations.

5.2.2 Multi-Band Projects

Recommendations in other sections of this report argue that there is both an opportunity and a need to consider large scale agricultural developments. One approach that has had some initial success with certain native business ventures is the use of the strengths of more than one Band in launching an enterprise. Agricultural examples would be those that require very large capital inputs such as an ethanol plant integrated with a beef feedlot, or a large scale piggery. Other examples would be where the combined natural resources of more than one adjacent Band, such as required for an expanded grazing area, or control of a waterway, would make a particular project feasible. Such expanded opportunities imply that each contributor has a land-use plan for their resources.

5.2.3 Joint-Ventures

Extending the Multi-Band approach, gets into the popular concept of Joint-Ventures. The term is all-inclusive since it implies that two or three or more groups pursue a single business objective. It may be more difficult in many instances for an individual or group from one reserve to be involved in a joint-venture with another Band or a non-native group, than for the entire Band to take the lead in view of the need usually for a land assignment over an extended period of time.

To avoid confusion, since there are similarities between partnerships and joint ventures, it has been suggested by Beaubier (2) that the differences are;..

> "Joint ventures are generally similar to partnerships; in fact it can be difficult to determine the difference between the two. The distinguishing factor is that the former (joint venture) often are established for a period of time with the objective of obtaining a single undertaking. From the point of view of income taxation, one

> critical difference between a joint venture and a partnership is that with the former, each participant is considered to own specific property or an undivided interest in a particular property that is used by the joint venture. Conversely, partnership property belongs to the partnership as a whole, not to the individuals involved. When calculating capital cost allowance, the partnership must determine the amount to be taken at the partnership level. In a joint venture, however, each participant is to take as much or as little (within the prescribed limits set out in the Income Tax Act on depreciable assets as he or she wishes".

The arrangement on reserves, suggests that a joint-venture would be entered into by the Band Council (or in less likely circumstances, an individual Band member) in the name of all of its members. This would keep the native owned resources separated in keeping with the Band-Queen trust-undertaking, and would maintain the income-tax-free-entitlement so long as the native portion of the joint venture were not incorporated.

Some hypothetical examples will serve to illustrate the possibilities.

a) An ethanol plant integrated with a beef feedlot operated by a non-native community, has a portion of the investment contributed by a Band or Bands. Sharing the risk and profits with another Band or a non-native investor is significant, but also so is the privilege of selling the Band's grain, hay and cattle to this assured market as well as supplying some of the labour.

b) A large piggery, built with Band capital on either reserve or off-reserve lands, but with a term management-contract with a non-native firm specializing in swine production. This ensures the immediate demand for detailed swine management skills while providing an opportunity for natives to develop these skills. It would be preferable however, for taxation purposes, to have the administrative headquarters on the reserve.

c) The above enterprises might be constructed on the reserve by a non-native

manager/investor that had been assigned the land for that purpose for a specific period through agreement of the Band and Indian Affairs, as is now required.

d) A fully Band-owned beef backgrounding-feedlot, could contract with a large non-native beef finishing-feedlot to take the Band's backgrounded cattle and in return the finishing-feedlot would supply the cattle and some of the management to the Band project. This would have the advantage of being on the reserve and therefore adapted for training individuals who would eventually find employment in other Band beef projects or in off-reserve beef enterprises. Of course it also meets the criteria for income tax exemption for the project and the individual's salaries.

In all scaled-up projects, but particularly in joint-ventures, the specific responsibilities of each contributor must be known in detail. There is a system to be followed;

a) The feasibility study; this involves a thorough examination of the logic and objectives of the proposal, the resources available (including capital, labour, materials, etc.), the costs of facilities, the markets, the problems that appear to be present (with their likely solutions), and suggested financing arrangements.

b) The business or financial plan; if the feasibility study is positive, then the business plan is next. This involves detailed costs (including startup, and the period until returns are anticipated, strategies for unanticipated events and contingency funds for regenerating the facility), acquiring (training) staff and establishing their salary scales and incentives, and finally a cash flow projection detailed for 12 months

Management	per pig	Profit/Loss per pig	Growth
poor	15 pigs marketed/sow/year	($15.04)	($12.85)
moderate	18 pigs marketed/sow/year	($ 1.68)	($ 0.51)
good	21 pigs marketed/sow/year	($ 7.86)	($ 9.43)
excellent	24 pigs marketed/sow/year	($15.02)	($16.93)

From; Pork Production Unit, Sask. Agric. & Food, 1993.

In this respect, scale of operation is also significant as illustrated in the following:

Fallow Deer Returns on Investment Based on Operation Size

	Operation Size (# does)		
	100	250	500
Receipts	$ 64,175	$160,438	$320,875
Costs	29,698	60,666	109,163
Gross operating profit	34,477	99,772	211,713
Management	20,000	30,000	40,000
Cash return (pretax/interest)	14,477	69,772	171,713
Total Investment	225,900	531,220	1,015,300
Return on Investment	6.4%	13.1%	16.9%

From; Agritrends Research Incorporated, 1992. (32)

All of the aforementioned, must operate in harmony with the unique taxation climate on reserves, provided by Treaty 8, the Indian Act and legal precedence (47). Some quotes from this

standard work by Reiter, do not in themselves give definitive guidelines for project planning, though they do raise the issues requiring in-depth study by those doing the planning.

> "I. Tax Considerations for Indian Businesses
>
> (1) Section 90 deems personal property obtained by Her Majesty with Indian moneys to be situated on the reserve. All transactions should be conducted under contribution agreements, as these transactions may be deemed to be on the reserve making them tax free....
> (3) The use of a company extends the geographic situs of the exemption. As illustrated in Nowegijick, the use of a company, trust, or other distinct entity, maintains the income tax exemptions for the Indian recipients, while, at the same time, allowing exploitation of markets in the city or natural resources off the reserve" (Chapter VII, Conducting Business, p 41, update 5/93, Reiter).
>
> "...if a resident Indian is employed on the reserve by a non-reserve company of the government, the Remission Order clearly states that the IT-62 rule (place of work) is to govern the situation, exempting the income from taxation" (Chapter VIII, Tax Guide for Canadian Indians, p 17-18, update 5/93, Reiter).
>
> "...provides that interest in a bank account is earned at the location at which the funds are deposited (eg; the bank). Since the majority of the bands do not have banks on the reserve, this application of the exemption is under used" (Chapter VIII, Tax Guide for Canadian Indians, (e) p 18, update 5/93, Reiter).
>
> "As an Indian company does not fit the definition of an "Indian" under s.2 of the Indian Act, the s.87 exemption to the income tax is not applicable to an Indian company (Kinookimaw case and IT-62 s.6(d)" (Chapter VIII, Tax Guide for Canadian Indians, H. p 20, update 5/93, Reiter).

There are several considerations that should be addressed by Bands as they begin the task of joint-venturing with other Bands, but particularly with non-native entities:

a) If the headquarters is located on the reserve, while the actual operations are located elsewhere, it would likely be considered to be on that reserve for taxation purposes. This implies that a swine production unit for example, might be physically located off the reserve for purposes of establishing credit, but with the

headquarters located on the reserve for taxation considerations.

b) The Band may forego requiring lease fees from the joint-venture (or wholly owned non-native venture) located on the reserve, for a specified number of years, which would be an attractive incentive to a non-native investor.

c) An innovative accountant might find that certain portions of non-native investments on a reserve, for taxation reasons meets the criteria of; supporting Indian culture, Indian development and Indian wellbeing, which arguably might find favour with the Taxation Branch.

Any consideration of establishing joint-ventures as a means of making a major step ahead in agricultural development on reserves is based first on the global nature of the current farming industry which places very specific efficiency requirements on producers. A second reason, in the case of reserve based projects, is that there is not a depth of experience nor are there usually existing arm operations on which to base the developments and therefore these skills must be acquired, at least for a period, from the non-native farming sector. It is quite appropriate to use the skills of the non-native community. The user, however, in this case the Band, must ensure they have enough knowledge themselves to properly direct and protect the shared investment and risk.

6.0 TRAINING NEEDS AND OPPORTUNITIES

6.1 4-H Movement

Implied criticism with small-scale programs that merely lock a native farmer into a

subsistence type operation, does not extend to the efforts to acquaint native youth with the intricacies of land and animal management. The small project approach with a garden or an individual animal, as for example with the 4-H Program, has many reasons to recommend it.

The learning of the work ethic and of accepting responsibility has been a remarkable benefit wherever strong 4-H Programs have been instituted. It is a sort of "chicken and egg" issue, but farm leaders in the non-native sector are also usually from the 4-H movement. The objectives of 4-H follows the motto, "Learn By Doing":

a) To learn the skills that last a lifetime.

b) To learn how to make wise decisions, become a better leader, develop greater self confidence and develop healthy living habits.

c) To learn how to work will with other people in the community.

d) To create an understanding of the natural surroundings, resources, and the importance of the agricultural industry.

The following tables provided by Les Ferguson, in charge of the native 4-H program in Saskatchewan, illustrates the impact that this program can deliver. (22)

Indian 4-H Summer Agricultural Projects

Year	Garden	Poultry	Swine
1981	400	-	-
1982	336	-	-
1983	258	-	-
1984	359	-	-
1985	373	132	-
1986	363	253	-
1987	549	241	15
1988	524	197	27
1989	619	262	58
1990	233	113	6
1991	259	198	53
1992	224	263	27

Indian 4-H Summer Agricultural Projects

6.2 Agriculture-in-the-Classroom

Because of their backgrounds the teachers in the system are more likely to provide a solid understanding of outer space or ancient history than they are of the activities that surround the native youth: the forestry, mining and agricultural industries. The Ag-in-the-Classroom program has been specifically designed to correct this deficiency.

The program provides curricula, background support materials, access to local speakers and training sessions for the teachers, in order that rural children will learn the basis for their

own parent's activities. It is recommended that the Indian Agricultural Programs associate with this program to reinforce the native children's links with their reserve environment. Out of a generation that understands and respects the primary resource industries more likely will come post-secondary level students that want to take further training and to work in the area professionally.

6.3 Vocational Training

Vocational training has been better accepted by native peoples than longer term post-secondary level education. The short terms involved and the practical, skill developing approach seems to more nearly match most potential trainee's objectives.

One concern that is raised by many education directors for native people, is that most vocational courses are still offered in central locations which makes it difficult for many potential students to attend. It has been found that once a trainee has successfully gone through an introductory course on the reserve, they are more likely to then leave the reserve for the period required for an advanced certificate.

Vocational education has a cost to it, of course. But, the benefits from having the native farmers, potential and actual, attending training courses on a frequent basis cannot but help improve the atmosphere for agriculture on each reserve and provide momentum to those practising farming.

6.4 Certificate and Degree Programs

> "The choice is clear: to invest more now in creative solutions to increase the educational attainment of First Nations people, particularly in the science-based areas, or accept higher expenditures for the consequences of inaction later"... Blaine Holmlund. (30)

Perhaps the funds allotted to advanced education of native people can never be enough, but the opportunity to take advantage of programs leading to a certificate or a degree have been attracting a growing number of native candidates. Most observers will agree, however, that they are attracted, almost exclusively to the liberal arts areas with the expectations of having a career in law, social work or teaching. This is not unexpected surely, since the role models of successful native degree or certificate holders are largely in these fields.

Blaine Holmlund, quoted above has prepared a strategic plan for increasing the number of natives entering the science-based fields in order that there be natives with these professional backgrounds. (30) The first step has been the practice of holding "get acquainted" sessions for high school aged native students to hopefully excite them about careers in science and encourage them to pursue such training. The second, is to establish a "college within a college" in order that special attention can be devoted to the native students planning on enroling for degrees in agricultural science and engineering. A page has been taken from the successes of the native law course and the strengths of the Saskatchewan Indian Federated College that is associated with the University of Regina.

If the intention is to have these potential science-trained students to return to assist their people at the reserve level, then it becomes even more imperative that the Indian Agricultural Programs be re-established or strengthened as the case may be. Without a structure through

which these native professionals can work, they will understandably drift to take on careers in the non-native communities.

6.5 Provincial Indian Agricultural Programs

The establishment of provincial programs to service agriculture (Saskatchewan Indian Agricultural Program, Manitoba Indian Agricultural Program (now defunct), Western Indian Agricultural Corporation (now defunct), Alberta Indian Agricultural Corporation and the Indian Agricultural Program of Ontario) was a significant step-back for Indian and Northern Affairs in the delivery of agricultural programs to reserves at a time when there is a significant step-ahead in the amount of individualized service required by the native farmers and Bands.

The two decades since the Indian Agricultural Programs were initiated have been a learning experience for those charged with delivering the program and for DIAND as well. The nature of the delivery has gone beyond the traditional one-on-one method of extension and small backup loans and grants, to planning and launching major projects, both for primary production and in value-added industry.

Some initial slippage in operating the load programs particularly, coupled with the depressed economy of Canada, has resulted in enough failures to create a concern for the value of the Indian Agricultural Programs. But with closure of the Programs in several provinces and cutback of funding in the others, there is a need to consider how the significant benefits of existing programs can be maintained and how improvements might be made in light of experience. There were no illusions when the Programs were initiated, but that there would be a high level of disappointments. There has been considerable investment in both energy and real

capital with a few outstanding successes, some modest successes and substantial numbers of failures. More important however, there is a group of individuals that have gained knowledge about how to initiate and carry programs forward. There is even a larger group that have had the encouragement to gain some experience in making decisions where they had been adrift before. These large investments have been made, and if ever there is to be a pay-off in numbers of successful agricultural projects on reserves, continued support is required to build on the beginnings.

In the non-native agricultural communities, there has been an edging away from the direct-to-the-farmer advisory function of extension services to a more facilitating role. This seems to be appropriate where the individual farmers and the supporting service structures have managed the shift to the "information age". And this shift has also occurred with a small portion of the native farming sector. However, with certain exceptions, agricultural developments and farmers on the reserves are greatly in need of individual attention from "hands-on" farm advisors. It can be readily predicted that where opportunity exists for the full development of the agricultural potential on reserves, it will be significantly slowed by the withdrawal of the support services from the Indian Agricultural Programs.

Alternatives to consider:

a) Re-establish the previous level of funding for the provincial agricultural programs, and study ways to reduce the risks in their delivery systems.

b) Reach agreements with the respective provincial governments to continue to fold the native agricultural support system into their non-native programming. This would be accompanied by expanding responsibility for program delivery by

trained native people.

c) Contract for management and delivery of certain aspects of the agricultural programs with public and private agencies. Examples might be the responsibility for providing training of native agriculturists by the appropriate provincial agricultural vocational training centres, or the overseeing of a specific production program, say been production, by the Saskatchewan Wheat Pool, Livestock Division, for example.

d) Leave the responsibility for agricultural programming to the individual Bands and award support through Indian and Northern Affairs, based on the merit of their proposals. This is what has occurred as the Programs have been cut-back but the money is woefully inadequate and the Bands have no incentive to roll the monies into agriculture.

None of the above proposals, other than the renewed support of the provincial programs that have been developed in recent years, have very much to recommend them as the major framework for resolving the gap in training for reserve agriculture.

As a stop-gap for the weakening of the provincial agricultural programs, or possibly as an evolutionary step in native agriculture, it has been suggested (Chief Lavallee of the Cowesses Band, Saskatchewan), that an elected native farm organization composed of practising native farmers be developed. The concept has some positive and some negative aspects;

a) There are many non-native farm organizations already, that natives can join, that concern themselves with every aspect of agriculture. Admittedly, few if any have the needs of native agriculture as even a minor concern.

b) An elected multi-Band organization might be viewed as a threat to the authority of existing organizations when it came to lobbying or discussing contentious issues, as almost certainly they would.

c) The need for a voice for native farmers is probably only of concern by those that have become reasonably well established in farming and seek expanded opportunities.

d) Some efforts have already been made to ensure that some natives are in existing non-native farm organizations. However, the question arises as to how this acquired information and influence is channelled back to all reserves without a structure.

e) Agriculture is not held in as high esteem by those on reserves as many other possible activities such as housing, social welfare, education, etc. Conceivably, an elected native farmer organization could pick up on this educational and promotional responsibility. It is commented on occasionally, that a particular Band Council may lack the appropriate concern for agricultural development and may need some assistance by those involved in farming, to inject the item onto their agenda.

6.6 Professional Services

As the nature and content of the activities surrounding land by the Bands and Tribal Councils becomes more complex, the need for professional services increases. For agriculture, some of these have been possible through, first, the staff of Indian and Northern Affairs and more

recently through the Indian Agricultural Programs. But beyond these, the use of consultants in law, banking and engineering, as examples, have become a major expenditure.

It is not unusual for professional organizations to hold training sessions for their membership on new or specialized areas of activity. Since the factors surrounding planning for First Nation's activities can be significantly different from non-native practice, and the impact of the advice received can be so critical, there may be reason to require some assurance that there has been some upgrading of the professionals hired. This would be the responsibility of the professional organizations, however some reminder from First Nations representatives, and offers of assistance in training seminars for professionals seems quite reasonable.

Some reserves are only a few minutes of travel time from a well supplied service centre. Others however, do not have the same level of services from the tradespeople such as plumbing, welding and etc. which are so essential to the efficient operation of agricultural activities. Even for the non-native farmers, the increasing distance from services has become of great concern. A critical mass of knowledge and skills is necessary within the farming community to test new approaches and share experiences.

In some instances, the Band, or possibly an individual has established a garage or repair shop on the reserve, but usually the level of service is well below that available to competing non-native farmers in the area and can spell the difference between success and failure.

The resolution of this difficulty may take different forms depending upon circumstances, but is an important consideration:

a. Band members that have an interest in agriculture and an aptitude for a particular trade should be assisted to acquire skill training so that they may be the bridge

between the journeyman and other farmers. This is part of the skills-training process that is mentioned in another section of the report.

b. Some individuals, who show particular interest, should be assisted to acquire the necessary training in order to qualify for journeyman ratings so they could be hired by firms in nearby service centres.

c. In some instances, managers of local service firms, unaware of how to conduct business with those on the reserves might be approached with such information and encouraged to make the necessary contacts and look to hiring native trainees.

7.0 RECOMMENDATIONS

A report must conclude with recommendations, that are realistic and precise enough to allow for decisions to be made. Among the following are some wide ranging recommendations, as for example for new production opportunities, and some that are very narrow and focused as for example relating to the Indian Agricultural Programs. It is hoped, that where the recommendations run counter to existing policies or tread on the sensitivities of Band administration, that they will be accepted as sincere efforts to be helpful.

1) It is strongly recommended that the principle under which the Indian Agricultural Programs were established, be continued. It would be most supportive of the efforts that have been already made, if the funding were simply to be replaced where it existed and be instituted where it was not. If there are adjustments required to make the programs more productive, then it should be done forthwith, in order that momentum is not lost and the small but capable native and non-

native staffs are not lost to the system.

2) It is strongly recommended that the principle of a National Indian Agricultural Council be accepted. It is suggested that this might naturally grow out of the current Committee on Indian Agricultural Programs, Chaired by Francis First Charger and funded temporarily by Employment and Immigration Canada.

3) It is recommended that Bands, that have not already done so, conduct thorough land use assessments of their resource base. Built on this understanding, it is suggested that the place of agriculture in their long term reserve development be spelled out.

4) It is recommended that Bands reconcile their individual reserve agricultural programs, of limiting land assigned to individual farmers, with the trend in the non-native community for scaled-up farming enterprises to match the needs of the market place.

5) It is strongly recommended that educational opportunities in agriculture for native peoples be pursued. This is required at all levels from youth programs, through vocational training, to post secondary training leading to certificates and degrees. If the costs appear high now they can only increase, the longer a successful program eludes the planners.

6) It is suggested that the professions of Agrology, Law and Accounting, to begin with, be approached in order that training (discussions, seminars) sessions be held with their members. The objective would be to acquaint them with the unique features of working with reserve based projects. This approach would most

appropriately be made by the National Indian Agricultural Council.

7) It is noted that there are opportunities for profitable developments in agriculture based on operations that combine skilled management, with sufficient capital, marketing experience and trained labour. It is recommended that, in the majority of cases a Band will be well advised to enter into a joint-venture arrangement in order to provide the necessary ingredients for success. Roughly in order of preference, they currently are;

- large scale swine operations,
- large scale beef backgrounding operations,
- large scale beef feedlot operations,
- integrated ethanol-beef feedlot, if it is mandated,.
- reserve pasture project,
- diversified reserve grains-operations,
- game farming with bison or elk.

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APPENDIX 1

Cost of Producing Grain Crops in Saskatchewan 1992

	1988	1989	1990	1991	1992
Number in this group	130	130	136	134	132
Average farm size*	1,712	1,860	1,793	1889	1914
Percent cropped	72%	76%	77%	72%	76%
Investment in equipment*	$ 88	$ 90	$ 86	$85	$94
Investment in buildings*	$ 8	$ 27	$ 26	$26	$28
Market value of farmland	$348	$297	$312	$290	$292
Projected Income		**Dollars Per Acre**			
Grain income					82.64
Total Income					*82.64*
Projected Expenses					
Crop inputs					
Seed	3.59	4.79	4.70	4.15	4.67
Fertilizer					
Nitrogen	3.68	3.51	3.37	2.66	3.90
Phosphorus	3.13	3.21	2.84	2.41	2.30
Other fertilizer	.90	1.19	0.81	1.00	1.62
Chemical					
Herbicide	7.14	7.50	7.10	7.61	7.45
Insecticide	.18	0.04	0.12	0.09	.12
Crop insurance	1.82	2.01	2.52	2.48	1.88
Hail insurance	.56	0.55	0.45	0.31	.50
Miscellaneous crop inputs	.43	0.39	1.12	1.15	2.35
Total Crop Inputs	*21.43*	*23.19*	*23.03*	*21.86*	*24.79*
Equipment and Building Expenses					
Fuel, oil and lubricants	4.28	4.05	4.11	4.77	3.88
Repairs and maintenance	4.26	4.58	4.19	4.08	4.53
Miscellaneous	2.76	0.52	0.51	0.25	.52
Indirect equipment expenses	.62	2.67	2.58	2.78	2.61
Total Equipment Expenses	*11.92*	*11.82*	*11.39*	*11.88*	*11.54*
Other Expenses					
Labour	5.20	7.68	6.62	4.64	4.93
Property taxes	2.69	2.00	2.78	2.89	2.96
Miscellaneous	3.75	3.99	4.46	5.58	3.97
Operating interest	1.82	1.93	1.89	2.13	1.95
Total Other Costs	*13.46*	*15.60*	*15.75*	*15.24*	*13.81*
Total Cash Costs	*46.81*	*50.61*	*50.17*	*48.98*	*50.14*
Depreciation buildings and equipment	13.66	13.77	13.10	12.14	12.45
Total Cash and Depreciation Cost	*60.47*	*64.38*	*63.27*	*61.12*	*62.59*
Net Farm Cash Income					**32.50**
Net Farm Income					**20.05**
Living Costs	**9.76**	**9.82**	**10.74**	**10.61**	**8.17**
Number of Gallons Fuel per Acre	**2.9**	**2.8**	**2.46**	**2.44**	**2.46**

* All owned and leased acres

APPENDIX 2

DISCUSSION OF RESULTS
FIFTEEN YEAR FINANCIAL STATEMENT MODELS FOR FARROW-TO-FINISH PORK PRODUCTION UNIT

The following summarizes the results from a simulation model of a farrow to finish pork production farm unit done July 30, 1993 for Dr. Ted Dupmeier. The highlights of the results are as follows:

- This model is of a 28 farrowing per week farm unit with a breeding herd population of approximately 661 sows and 33 boars. The productivity ranges from 18 pigs marketed per sow in the first year to 22.32 pigs marketed in the fifteenth year. The feed ingredient prices are set at ten year Saskatchewan averages (barley at $96.12/tonne and feed wheat at $120.10/tonne). The market price for pigs is $146.00 per ckg., also a ten year average.

- The total assets employed in this unit are $2,201,085.00 (approximately $3,000.00 per sow plus breeding stock and land). The owners equity required at the start up is $893,200.00 (40%) and the remaining $1,220,651.00 (60%) is borrowed. The operating capital is a line of credit with interest charged at 10%. The line of operating credit reaches the maximum at week 28 of operation at $586,023.00. The line of credit is not needed after late in the third year.

- There is additional income to this unit from breeding stock sales, a $35.00 per pig premium on 25% of the animals produced ($8.75 per pig overall).

- The original equity of $893,200.00 increases to $6.1M at the end of year fifteen (no dividends paid out). This represents an average return to equity of 39% over the fifteen years. The return to equity in the first seven years is 26% annually and the equity at the end of year seven is $2,516,852.00.

- The return to employed assets is 10.97% over fifteen years and 16.58% in the first 7 years.

- At the end of the fifteen years a well maintained unit, in this model $7968,000.00 per year has been allocated to maintenance, remains capable of generating approximately $500,000.00 per year profits.

For additional information, analysis and discussion, please contact:

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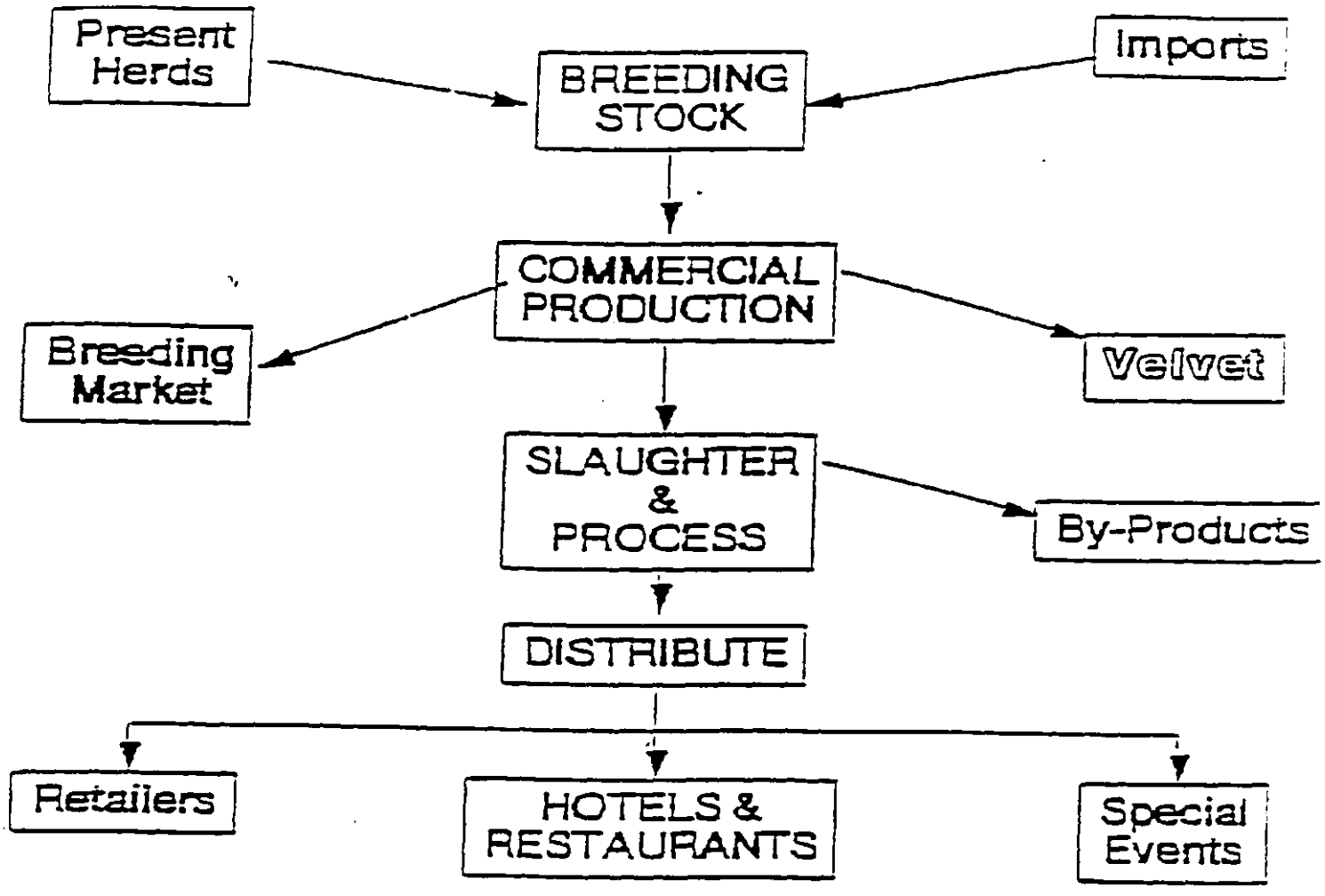
SUMMARY:	Year 1	Year 2	Year 3
Farrowings per week	28	28	28
Total number of breeding sows	693	677	661
Herd Productivity in pigs marketed per sow per y	18.00	18.64	19.76
Feed costs based on an input barley cost per tonne of:	$96.12	$96.12	$96.12
or per bushel of:	$2.10	$2.10	$2.10
Based on an input wheat cost per tonne of:	$120.10	$120.10	$120.10
or per bushel of:	$3.17	$3.17	$3.17
Feed cost per pig marketed	$59.85	$59.55	$59.03
Feed cost as a percentage of total cash cost of	59.67%	57.78%	56.35%
Income Statement Profit/Loss	($72,066.03)	$208,860.09	$226,556.06
Dollars available for equity growth and savings	($463,282.63)	$232,354.01	$217,100.84
Percentage of revenue required for debt service	21.55%	9.85%	8.13%
Total Capital Assests Employed	$2,113,851		
Return on total assets	-3.41%	9.88%	10.72%
Average Return on Total Assests in first 7 years	10.97%		
Average Return to Total assests over 15 years	16.58%		
Total Owners Eguity	$893,200		
Returns on owners eguity	-8.07%	23.38%	25.36%
Average Return to Equity in first 7 years	25.97%		
Average Return to Equity over 15 years	39.25%		

APPENDIX 3

Game Industry Structure



Summary of Costs and Returns
50 Cow/Calf & Bull Finishing Operation
(Peace River - Alberta/British Columbia)

	Weight	$/lb.	$/hd.	Total	Per Cow
RECEIPTS					
21 Slaughter Bull	1,100	$1.50	$1,650	34,650	$693.00
20 Heifer Calves			1,350	27,000	540.00
2 Cull Cows			1,250	2,500	50.00
2 Cull Bulls			1,875	3,750	75.00
Total Receipts				$67,900	$1,358.00
DIRECT COSTS:					
Hay	62.4 t @ $		45 /t	$2,808	$56.16
Mixed Grain	24.5 t @ $		70 /t	1,715	34.30
Salt & Mineral	1.0 t @ $		660 /t	660	13.20
TOTAL FEED COSTS				$5,183	$103.66
Fence & Corral Repair				$750	$15.00
Custom Pasture Renovation				2,200	44.00
Machinery Operation				1,368	27.36
Miscellaneous				750	15.00
Veterinary & Medicine				707	14.14
Other Direct Costs				$5,775	$115.50
Total Direct Costs				$10,958	219.16
GROSS MARGIN				$56,942	$1,138.84
INDIRECT COSTS					
Land Taxes			$1 /ac.	$665	$13.30
Operator Labor	586 hrs. @		$10 /hr.	5,860	117.20
Depreciation				3,600	72.00
Total Indirect Costs				$10,125	$202.50
Total Direct and Indirect Costs				$21,083	$421.66
GROSS OPERATING PROFIT				$46,817	$936.34
INTEREST ON INVESTMENT					
Livestock				$21,275	$425.50
Improvements and Equipment				2,805	56.10
Land				13,300	266.00
Working Capital - at 11.0%				603	12.06
Total Interest				$37,983	$759.66
TOTAL ECONOMIC COSTS				$59,066	$1,181.32
RETURN TO MANAGEMENT - after interest				$8,834	$176.68
- before interest				$46,817	$936.34
Less management				20,000	400.00
RETURN ON INVESTMENT - Pre-tax/interest				26,817	536.34
Total Investment				393,750	7,875.00
R.O.I.				6.81%	

WEANED AND MARKETED - 90%
CDV LOSSES 0%
CDV CULL 5%

INVESTMENT SCHEDULE

	Head	$/Hd	Total Value	% Use	Entrpr Value	Years Life	Salvage Value	Average Value	Dep Rate	COSTS PER YEAR Oper	Dep	Int
LIVESTOCK												
Cows	50	3,000	150,000	100%	150,000			150,000				15,000
Bulls	5	2,500	12,500	100%	12,500			12,500				1,250
Heifer - calves	2	1,350	2,700	100%	2,700			2,700				270
Heifer - 2 yr. old	2	2,500	5,000	100%	5,000			5,000				500
Bulls - 1 yr. old	23	850	19,550	100%	19,550			19,550				1,955
Bulls - 2 yr. old	23	1,000	23,000	100%	23,000			23,000				2,300
Total			212,750		212,750		0	212,750		0	0	21,275
BUILDINGS AND IMPROVEMENTS												
Corral System			10,000	100%	10,000	10	1,000	5,500	10%	250	900	550
[illegible]			21,000	100%	21,000	20	4,200	12,600	5%	500	840	1,260
								0	0%		0	0
								0	0%		0	0
								0	0%		0	0
Total			31,000		31,000		5,200	18,100		750	1,740	1,810
MACHINERY AND EQUIPMENT												
Tractor/Loader			12,000	100%	12,000	10	2,400	7,200	10%	738	960	720
Pickup Truck			5,000	100%	5,000	5	500	2,750	20%	630	900	275
					0			0	0%		0	0
					0			0	0%		0	0
					0			0	0%		0	0
Total			17,000		17,000		2,900	9,950		1,368	1,860	995
LAND	Acres	$/Ac										
Site/woodland	50	200	10,000	100%	10,000			10,000				1,000
Pasture	615	200	123,000	100%	123,000			123,000				12,300
Total	665		133,000		133,000		0	133,000		0	0	13,300
TOTAL			$393,750		$393,750		$8,100	$273,200		$2,118	$3,600	$37,380

Cash Flow & Income Statement Summary For A Ten and Thirty Cow Elk Herd

Net Cash Flow From Production

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
(Breeding Stock Production 10)	(179,308)	(4,627)	91	98	105	113	122	131	141	98
(Breeding Stock Production 30)	(372,022)	20,625	27,810	43,290	44,962	46,648	48,297	85,988	89,222	92,558
(Velvet Production 10)	(183,977)	(11,330)	(7,347)	(6,833)	(4,979)	(1,884)	5,457	13,161	16,821	20,580
(Velvet Production 30)	(390,786)	(198)	(36,684)	25,425	37,243	67,483	92,560	109,254	156,077	165,919

Net Cash Income

(Breeding Stock Production 10)	(19,538)	(4,627)	68	74	79	85	91	98	106	74
(Breeding Stock Production 30)	(37,299)	15,469	20,858	32,467	33,722	34,986	36,298	64,491	66,909	69,418
(Velvet Production 10)	(25,444)	(11,330)	(7,247)	(6,833)	(4,979)	(1,884)	4,093	9,871	12,615	15,435
(Velvet Production 30)	(56,064)	(198)	(36,684)	19,069	27,932	50,612	69,420	81,940	117,058	123,764

Accumulated Cash

(Breeding Stock Production 10)	(19,538)	(24,164)	(24,096)	(24,022)	(23,943)	(23,858)	(23,767)	(23,669)	(23,563)	(23,490)
(Breeding Stock Production 30)	(37,299)	(21,831)	(973)	31,494	65,216	100,201	34,897	99,388	166,297	235,715
(Velvet Production 10)	(25,444)	(36,775)	(44,122)	(50,955)	(55,935)	(57,819)	(53,726)	(43,855)	(31,240)	(15,805)
(Velvet Production 30)	(56,064)	(56,262)	(92,946)	(73,877)	(45,944)	4,668	74,088	85,122	202,180	325,944

Net Income

(Breeding Stock Production 10)	15,981	25,645	2,624	8,618	9,710	10,897	12,189	13,598	15,136	16,777
(Breeding Stock Production 30)	60,952	100,148	51,974	56,490	54,989	58,652	62,588	62,958	65,453	68,035
(Velvet Production 10)	10,016	32,914	10,513	17,891	21,296	25,422	32,178	35,434	34,921	29,419
(Velvet Production 30)	42,187	126,482	80,031	95,467	96,329	115,595	120,143	116,553	115,068	121,863

APPENDIX 4

GREY OWL

SIAP
MARKETING CO. INC.
Box 3003, McIntosh Mail
Prince Albert, Sask., Canada S6V 6G1
Phone: (306) 953-2770 Fax: (306) 953-2440

SIAP MARKETING CO.

WILD RICE BACKGROUND INFORMATION

- Incorporated in 1984
- Parent Company - Sask. Indian Agriculture Program Inc.
  - owned by 72 Indian bands in Sask.
- General Manager - John Hemstad, Prince Albert
  - Tel: 953-2770
- Chairman of the Board - Jerry Starr, Fort Qu'Appelle
- CEO - Ken Thomas, Saskatoon

I. Green Wild Rice Purchases

- purchase green wild rice from growers across northern Saskatchewan.
- approximately 250 growers in the industry plus numerous custom harvesters and help in the industry.
- purchase price - 65¢/lb. in 1989 and 70¢/lb. in 1990, 91 and 92.

(green - lbs.)

	1989	1990	1991	1992
West Region - Beauval		522,176	632,170	558,327
Central Region La Ronge	936,140	775,171	542,427	485,692
East Region - Pelican Narrows		39,499	66,812	44,513
TOTAL	936,140	1,336,846	1,241,409	1,088,533
Total Sask. production	**1,700,000**	**2,500,000**	**2,300,000**	**1,800,000**

II. Poundage Processed at La Ronge Plant by SIAP Marketing Co.

(green - lbs.)

	1990	1991	1992
	1,256,608	1,024,665	1,059,405
Total plant processing	1,800,000	1,600,000	1,400,000

- Balance of wild rice purchased was sold for seed and as green wild rice to out of province buyers.
- Processing plant built in La Ronge in 1983 and this allowed green wild rice formerly sold to USA buyers to be processed in Sask.

- Allowed for the development of a marketing strategy by a Sask. Company as finished wild rice was now produced in Sask.
- Processing plant creates approximately 40 part-time jobs each year plus economic activity in supplies and services.

III Marketing Program

- SIAP Marketing Co. has been involved in a worldwide marketing program which includes Canada, USA and Europe.
- Developed a USA Division in Grand Rapids, Minnesota with a complete infrastructure including warehousing, packaging and sales staff.
- European strategy has focused on Germany and France but will include a United Kingdom launch in October.
- Gross sales of the Company have grown as this strategy has developed.

1989 - $ 26,490
1990 - $ 372,042
1991 - $1,486,112
1992 - $2,287,420
1993 - $2,381,972

- Marketing strategy has highlighted the features of Sask. lake harvested wild rice as compared to USA paddy grown wild rice.
  - natural, organic production
  - historical aspects - variety, heritage
  - Indian involvement
  - strong physical features

- Sales strategy will now focus on value added products with initial concentration on reducing the cook-time and blending wi rice with other rices and dehydrated vegetables.
- Future plans include the expansion of sales to key accounts, further value added development and consideration to adding othe food products to our marketing portfolio.

IV Financing

- SIAP Marketing Co. purchases of wild rice has been financed by the Northern Revolving Loan Fund in the past.
- The total amount of loans extended to SIAP Marketing Co. each fall are as follows.

1989 - $ 750,000
1990 - $1,200,000
1991 - $1,200,000
1992 - $1,200,000

- SIAP Marketing Co. has relied on this source of financing in order to purchase the green wild rice each fall.
- Negotiations to obtain funding from other sources e.g. chartered banks will take much time due to their lack of experience in lending to this enterprise.

APPENDIX 5

Kick Starting The Saskatchewan Indian Agriculture Program

History and Techniques Used

There were a number of "prior happenings of importance" that certainly improved the climate and the thinking towards the development of SIAP as follows:

1966 - The centre of community studies, U of S, Saskatoon undertook a study on the farm potential on two Sask. reserves. This was done by Helen Buckley and Sheridan Campbell. The study revealed the almost non-existence of agricultural development and identified some of the potential for the people on the reserves.

1968 - The Agriculture Institute of Canada annual meeting at Banff, presented a brief to the Honourable Jean Chretien, Minister, DIAND, outlining the need for realistic development on Indian Reserves and offering professional assistance by its members.

1960's - Major Dave Greyeyes and Keith Gavigan, both working with the Department of Indian Affairs arranged a series of meetings with Sask. Dept. of Agriculture, extension people to invite more extension activities on reserves. In a way this could be considered an initial breakthrough towards unifying federal and provincial responsibilities.

1965 - Regional Indian Affairs organized a workshop at Fort Qu'Appelle for all Indian farmers with two Ag. Reps as instructors. (Vic Bealieu and myself).

1969 - The general ARDA program was undertaken by Sask. Agriculture and funded by Federal ARDA under the agreement. This program resulted from requests by a number of Sask. Indian Bands and included policies for assistance with land development for pasture and individual farmers. The

2. Intensive consultation with Indian Bands, organizations, and Indian people.

I believe all of these prior happenings "kick started" development. The intense interest for agricultural development and finally the 1970 sectorial program policy also coincided well to allow the development of the SIAP program.

In 1971 the FSI sponsored preliminary meetings chaired by Sol Sanderson (Executive Director FSI) and formed the Sask. Indian Agriculture committee.

The committee included Alex Kennedy, Indian Farmer and FSI executive.

John Gambler, Indian Farmer and FSI senator.

James Burns, Indian Farmer

Harry Bird, Indian Farmer

Art Irving, Regional Agrologist DIA

Dr. C. M. Williams, Professor, Dept. of Animal Science, University of Sask.

Murdock McKay, Ag. Extension Specialist, Sask. Agriculture.

Over the next 2 or 3 year period the committee held frequent meetings towards developing a plan and approach. A number of indepth studies were undertaken to determine the present agricultural situation on all reserves. A land inventory, past and present policies available to Indian farmers etc. The committee then obtained all pertinent information and used resource people knowledgeable in various areas of development.

The committee were involved with writing and rewriting material, interim briefs to the sponsoring organization and policy people.

The final stages including, developing a policy program with specific proposals and recommendations and ongoing consultation with Indian Farmers, District Chiefs and the FSI.

In 1972 (Oct.) A committees program proposal was presented to the all Chief's conference.

The proposal was approved in principal on the condition additional meetings and consultations be held with each district.

In April 73, the final proposal was endorsed by the all Chief's who recommended that 3 months be allowed for final comments, contributions and further consultation.

Alex Kennedy, Chairman presented the program proposal to Honourable J. Chretien, Minister, Indian Affairs in Sept. 73.

The Minister approved the proposal in principal in Oct. 73 and freed up some funding to implement the extension advisory services component. Following this an agreement was signed between the Dept. of Indian Affairs, Sask. Dept. of Agriculture and FSI which provided 3 Ag reps. Three assistant Indian Ag. Reps. One Farm Management specialist and.

One Co-ordinator.

The committee's program proposal had emphasized there was a real need for an intensive extension and training program to work on a one to one basis as well as group activities and this needed to be in place prior to further larger scale development. This was apparently recognized by DIA.

Over the 1973-74 period a sub committee including Alex Kennedy, myself, John Stoyko, Regional Agrologist, DIA and George Higgens, Chief Economic Development, DIA, Ottawa prepared the Treasury Board submission and program document including estimates for the program components and over a 5 year period.

In April, 1975 a program proposal was approved by DIAND Ottawa. The program to manage by a board under DIA on a one year trial basis versus incorporation. I feel one of the important aspects of the committees work was developing specific and measurable goals and objectives which were briefly:

-Develop 900 Economic farm units over the 20 year program period.

-Develop 350 Economic farm units over the initial 5 year period.

-Provide training for 500 people for employment opportunities.

-Provide training to manage their own programs - including a youth porgram (4H).

-Maintain soil fertility and improve productive capacity of reserve lands.

-Increase self respect, esteem and reliance of Indian people in and associated with Agricultural industry.

-Increase gross farm production by 600% over 5 years.

-1,200,000.00 (71) to 7,200,00.00 (80)

-Increase average gross farm production value to 86% of Sask. average over the first 5 years and 100% over the 20 year period.

As a matter of interest the major components and estimated 5 year costs ($29,608,000.00) where:

A. Advisory services ($2,659,000.00)

B. Training and 4 H ($1,306,000.00)

C. Loans (IEDF $11,620,000.00)

D. Development contributions ($12,750,000.00)

E. Other contributions ($200,000.00)

F. Administration ($1,073.000.00)

I mentioned these amounts to show they were significant at this time and I think the direct result of the committees endeavour towards developing a sound, realistic

and practical program, probably one of the first programs of this type developed from the bottom up, whereas most previous policies which were always from the top down with probably very little input from individual operators, reserve communities and organizations.

The program structure included:

A. Three district boards - One in each Indian Affairs District, made up of One board member from each reserve appointed by the Chief and Council. The board member who have agricultural interests and report to the Chief and Council.

   The board has acted as a advisory group to the District extension and development program.

B. The Chairman of each board (selected by the board) sat on the provincial board along with representatives from DIA, SDA, community at large (U of S and the FSI).

   The provincial group were the management group for the program.

   Some of the other historical development included some changes.

1976-77 at the request of the District Chiefs, SIAP was increased to 6 districts which provided 6 district Ag reps and assistance Ag reps (later one additional Ag rep for the Fort Qu'Appelle District and 6 district boards).

This resulted from the impossibility to service the rapid development and other extension activities under the original structure and involved changing the DIA-SDA-FSI agreement.

In 1977 Ken Thomas became acting manager of the program and in 1978 the program was incorporated, we separated it out of DIA.

The program was registered under the society's act as the Sask. Indian Agriculture Program Incorporated. An office was established and management and staff were hired.

The program emphasis has changed from time to time over the years depending on the needs. The Northern unit was established which took the lead in developing Northern agriculture including wild rice production, cage rearing, rainbow trout, native berry production, horticulture and fur ranching as well as some game ranching.

From its inception, the program continued to explore and utilize developmental funding through other agencies such as DREE, Indian and Native Affairs and Agricultural Development Fund, as well as all incentive programs under the federal and provincial governments.

This background information I hope will provide some insight into a startup and development of the program.

In summary, I don't think there's a great deal I can add on any special techniques or strategies, used to change the former situation and achieve SIAPS objectives. I think some of the important ones were..

-Involving local farmers and the political organizations in the planning and policy areas right from the developmental stage up to the management stage.

-Developing a trust relationship with individual farmers, reserve leaders and their organizations as well as other organizations and individuals having a stake in the overall program objectives.

-Keeping the stake holders, be they policy people, politicians, agencies, reserves and other organizations or even "new kids on the block" informed, hopefully interested and if possible involved with the program.

-Take a lead role if possible in areas where other responsible agencies are lagging behind i.e. Northern Development.

-Develop and maintain good public relations and communications with other agencies, organizations and the general public.

-Hire extension/advisory staff that are extension/development orientated.

-Provide the necessary training in areas such as interpersonal skills, production technology updates, business management and the native culture.

-Support the development of leadership and management particularly through the district and provincial boards.

-Use innovator Indian Farmers as well as outside farmers to act as role models to provide and extend technical and other information.

-Involve the youth through a formal and educational leadership program.

-Involve women in the program in terms of training, farm business, secondary enterprises such as horticulture. Provide additional specialized training and developmental work in these areas.

-Continue to look for new areas for growth with specialized enterprises that fit the situation and have potential.

-Provide needed communications/advisory services on a continuing basis.

These are just a few of the extension/development techniques that were used on a planned or accidental basis, that I feel helped with the development of the overall program.

I am sure there are many more.

COMMENTS BY:
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APPENDIX 6

ABORIGINAL AGRICULTURE/IAS
COMMITTEE MEMBERS - COMMUNICATIONS LIST

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Indian 4-H Membership Summary

Year	Winter Youth Projects	Leaders	Clubs	Campers
1977/78	232	20	7	72
1978/79	498	55	14	66
1979/80	640	88	20	68
1980/81	807	99	24	74
1981/82	738	94	30	65
1982/83	400	68	10	51
1983/84	433	85	13	69
1984/85	401	57	9	56
1985/86	497	58	10	75
1986/87	243	29	12	85
1987/88	421	76	13	56
1988/89	192	37	8	66
1989/90	503	74	19	61
1990/91	395	59	15	67
1991/92	742	58	26	75
1992/93	395	56	22	86

It should be recognized as well, that the native 4-H program has an extra dimension because the families are often not in a position to support the children to purchase an animal, or to travel to an event such as a summer camp. It is a very excellent investment in the next generation to give this activity support.

The 4-H program attracts both girls and boys, those who have an agricultural bent and others as well, can continue beyond the youth years and has the very practical benefit of providing a focus for young people's energies. It is recommended that the rejuvenated Indian Agricultural Programs will make the 4-H program a key rural native youth effort.