ATLANTIC AGRICULTURE
POSITION AND POTENTIAL TO 1980

A Report Prepared For

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ATLANTIC AGRICULTURE: POSITION AND POTENTIAL

Introduction

In the opening section of this report the general parameters within which Atlantic agriculture is presently operating are discussed. In general these parameters are perceived as either constraints or advantages.

It follows that if accelerated development is to be adopted as the basic strategy for this primary industry; then the removal of constraints and exploitation of advantages clearly becomes the modus operandi.

Section Two of the report is prepared, like the first section, on a province-by-province basis. This approach allows provincial differences to be brought forward for examination; while retaining an overall Atlantic viewpoint on their interfaces.

Section Three deals with institutional and governmental constraints common to all of the Atlantic provinces; and outlines an alternate approach to agricultural policy for the area.

Section Four is a summary strategy for the development of Atlantic agriculture; and concludes with a brief assessment of impact such a strategy could have on the region.

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Prince Edward Island

As a prerequisite to evaluating the problems and possibilities within the agriculture sector of Prince Edward Island, an inventory of constraints and advantages is essential. Many of the factors which have worked to produce the unique socio-economic fabric found in P.E.I. today still remain, and will have great bearing on the type of development strategy which will be needed if the ultimate goal of an acceptable rate of self sustaining growth is to be achieved.

Nor is it possible to divide these factors into clearly defined constraints or advantages since many of them are double edged and what was or is a disadvantage might be a great asset, given a new set of conditions. An assessment of the pros and cons of each factor is therefore appropriate, rather than a classification.

1. Natural

   (a) Soil Resource. A very large proportion of the island is under-lain with soft sandstone, shale which breaks down to give soils of moderate to good fertility with considerable depth, and acceptable drainage. Response to modern farming technology is excellent, giving high potential for a wide variety of crops. For some as yet undetermined reason the soils impart to vegetable crops excellent taste and texture qualities, a phenomonum which has given rise to the market preference for the P.E.I. potato.

   (b) Topography. The gently undulating topography found over almost all P.E.I. is most favourable for modern farming practises. Although abuse has led to some erosion, the old saw of "million acre farm" represents a fairly accurate estimate of the amount of land which could be economically used for pasture and crops out of P.E.I.'s 1.4 million acres.

(c) Geography. In spite of its somewhat elengated shape the high proportion of usable land together with an intensive road network (much of which is paved due to the marked politicization of highway development) presents a very favourable matrix for the supply of services to agriculture and the collection of its products. A 25 mile radius from both Summerside and Charlottetown would encompass more than 80 % of the total agricultural activity in the province. There is little of the problem now existing in other parts of Canada where once farming intensity falls below a certain level; a total cessation of activity becomes inevitable, as the provision of services becomes uneconomic.

(d) Location. P.E.I.'s location is both good and bad: Bad in that a province which depends so heavily on the export of agricultural produce is so far from large centers of consumption in Canada; but good in that it is as well placed as almost anywhere else in the Maritimes to exploit developments in rapid rail transit between the East Coast and central Canada and the inevitable exploitation of the almost unlimited market of the Bos-Wash corridor.

(e) Insularity. The fact of being an island with no direct link with the mainland brings immediate disadvantages, perhaps most obviously, in the transportation field (which will be dealt with later). Setting aside this factor and looking particularly at an agriculture based largely on potatoes and exhibiting considerable potential in other vegetables a very real advantage can been seen; that of disease control. This factor explains why many of the most famous speciality crop areas in the world are either islands or pensinulas. So successful have been the British Channel Islands in

exploiting this factor that without any industrial sector they have been able to secure a very high standard of living and been able to dispose of such niceties as tobacco and alcohol taxes and have only a nominal income tax rate.

(f) Land Use. The problem of land use pressure is much smaller than the ongoing controversy over non-resident ownership would suggest. True there is heavy pressure on the high class seashore property and on land near the best beaches. However, apart from this there is very little real pressure on the vast majority of farm land as has been demonstrated by the relative unimportant differences placed on agricultural use value and market value by the recent reassessment exercise.

(g) Climate. Prince Edward Island enjoys a favourable agricultural climate. Some of the highest values for heat units in Atlantic Canada are found in the province; and the moderating effect of the sea extends the frost free period usually into October. This has considerable significance for the development of the potato, vegetable and small fruits segments of the industry.

(h) Resources. Prince Edward Island has no commercial quanities of either coal, limestone, stone suitable for construction, or aggregate. No oil or gas has yet been proved although prospects appear reasonable. The high cost of electrical power, which has a pervasive effect on the viability of industries such as food processing, is a major road block to development. The lack of aggregate adds significantly to construction and road building costs. Lime use is well below the estimated annual requirement and it is clear that production potential on many farms is not being realized because of the cost of obtaining this imput.

(i) Industrial Development. Apart from the processing of farm and fishery products there is virtually no industry on the island. This means a lack of high wage job opportunities and the strong stimulus to the economy that this type of activity provides. However, this does mean that the choices in basic policy making are quite clear; that there is no viable alternative to farming as the prime source of year round employment. The problem is how to bring this about given a history of remarkable little attention to agricultures problems in the past.

2. Infastructurial

(a) Transportation. In spite of an extensive road and rail network the lack of a direct link with the mainland overshadows all transportation questions; and constrains the development of a long-term strategy for the movement of supplies and product. The uncertainities surrounding the Causeway has in fact allowed many acute problems to go unresolved simply becuase the building of a causeway could always be held up as a "deus ex machina" both imminent and all encompassing.

The railroad system on the island on which the potato industry relies so heavily is now almost completely inappropriate to its needs. Even when the ferry system is operating in full capacity, the cost in delays is very substantial. When problems arise either during the tourist season or in times of heavy ice, severe locations of both truck and rail transportation result. The cost is not readily calculable, but certainly very substantial; it adds very considerably to the cost of doing business on Prince Edward Island and is certainly a major impediment to the location of new plants on the Island.

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With regard to marine transport the Island does possess definite advantages. Good ports exist at Summerside, Charlottetown, and Souris; with excellent facilities on a smaller scale available at Montague and Murray Harbour. The major agricultural areas are sufficiently near these ports to allow direct delivery by farmers;and much of the export trade in seed and table stock potatoes is moving by these routes. The provision of better ice-breaker services and a sparse natural ice pattern around Souris make this an almost year-round port. This could be a most favourable factor if the Island could exploit known opportunities for both seed and table potato exports. A large potential for potato and vegetable sales exists in Newfoundland and those part of Quebec served by Seven Islands. Marine Transport using these ports could well be the means for exploiting these opportunities.

Air services have shown a rapid improvement over the last five years. There is now daily direct jet service with Montreal and Halifax and a morning and evening connection with Fredericton and Halifax by prop jet. Airport facilities in Charlottetown are not of a high standard but constant improvement is taking place. The military base at Summerside is an excellent facility and is used for commercial flights. Air freight services could be developed to a very considerable degree with the facilities available which are, in addition, almost ideally located to serve agriculture.

The Island road network is intensive and a good standard; presenting almost no constraints to the development of a more intensive and productive agriculture.

3. Social and Institutional

Cut off physically from the mainland and not really exposed to the rapid industrialization and urbanization which has wrought such drastic change in other parts of Canada, the Island exhibits unique social and institutional features. Perhaps the most remarkable is the combination of clearly defined divisions on geographical, religious, political, and social grounds; allied to a strong sense of identification of being an Islander; together with a well developed scepticism concerning the motives and abilities of outsiders.

Without a lengthy analysis of these factors, and looking directly at agriculture, the implications are very significant. The present situation in the potato industry is a near perfect microcosm of the overall problems in creating organizational structures through which the industry can confront its problems and exploit its opportunities. There are to begin with more than 15 different organizations that deal with one aspect of the industry or another; of these at least five claim to speak for the industry as a whole to which must be added two farm organizations with widely different philosophies and policies. One need only add outsiders in a civil service committed to a low profile and the maintenance of the delicate balance between the various factions to develop an interesting situation.

Moreover a tradition of this kind of situation has brought about the substantial withdrawal of farmer support for organizations. Active participation rates in commodity association and general farm organizations are in fact so low that statements from them are clearly identifiable with a very small group of people and are often entirely unacceptable to those they claim to represent; but go unchallenged through a general sense of apathy.

It is for these reasons that the commodity board approach which has already enjoyed some success is so vital. The democratic process involved in the establishment and running of these boards allow not only an option for an elective rather than a selective or even a manipulative approach to the development of leadership; but allows the organization to operate from a clearly defined postion of majority support. Governments can deal effectively with such groups in the knowledge that they are representative of the industry (and not the splinter group) the adoption of whose policies will bring vocal and adverse reaction. Precisely this happened when government accepted an all organization committee recommendation to revamp the existing potato marketing board rather than form a commodity board for potatoes.

This situation exposes a crucial flaw in the development plan which envisaged large and immediate increases in value added and total output from the industry; with no direct assault on the lack of effective commodity and farm organizations. A conventional department of agriculture offering extension and specialized services will do little to produce these changes and will find its effectiveness severely hampered if it does not take place. Only very recently has there been a realization that these goals must be aggressively pursued, that money is needed to get the organizations off the ground, and that systems and cooperation between departments and agencies are needed to delivery the multi-faceted package of services that commodity boards require before and after their formation.

The process of reaching over the exisiting organization and creating new confidence and leadership at the producer level is one requiring great tact, patience and sympathy. It is made more difficult by the fact that the development plan was evolved

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in an atmosphere of great secrecy; and promolgated through what must be a new low in the art of public relations. Some of the wording of the plan is tactless if not downright provocative; and all of these factors have given rise to a widespread and deep seated resentment in the farm community.

This feeling will continue and worsen until those responsible for delivering the overall package can be seen to have given up an attitude of open contempt for the present state of agriculture on the Island; and a well developed adversity to the prospect of either meeting or holding meaningful discussions with anyone who even resembles a real-life farmer. Complaints of rash and radical action and statements by farmers when an adversary system was imposed upon them are entirely specious.

The development plan should be used as an outline plan subject to substantial revision in policy, program and spending as circumstances warrant; and not as a sacred cow to be defended at all costs. Significant changes have occured in general attitudes, the civil service and the political system over the last three years. Great gains are now within reach if a flexible and sympathetic attitude is employed. The mini-boom caused by substantial spending on infrastructure and personnell is not self-sustaining; and without a change in strategy real growth in the economy will be extremely difficult to obtain without the underlying will and organization necessary to meet the challenge.

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New Brunswick

The special constraints and advantages of agriculture in New Brunswick are discussed in the following three sections. Although it is evident that the constraints upon agriculture in this province far outweigh its extant advantages, this does not preclude a development strategy for the sector. Rather, the very serious constraints under which it will be operating over the next decade require the development of a strategy which can effectively erode these constraints.

1. Natural

(a) Land Base. There is little doubt that New Brunswick has a sufficient, if not entirely munificent land resource base for commercial agriculture. But while the commercial agriculture land base is concentrated in the Upper St. John River and Sussex - Moncton areas, with smaller concentrations in Drummond (St. Quentin) and the southeastern corner of New Brunswick, farming remains still widely dispersed along the periphery of the province. Much of the base of class 2,3 and 4 land remains unutilized or underutilized, adjacent to the commercial farming areas.

A planning document prepared by the N.B. Dept. of Agriculture in 1970 acknowledged that the province's abundance of land could be an advantage, where the land:
(i) is capable of efficiently producing agriculture crops,
(ii) is actually available in adequate supply, and
(iii) is well located, relative to transportation and markets.

The report went on to note, however, that much of New Brunswick's land is not capable of efficiently producing agricultural crops; is not available in large enough units; is poorly located; and poorly managed. The result has been

predictably inefficient production, generating inadequate returns to maintain its position, let alone grow. Despite what has been done under two ARDA agreements, the organization of the land resource for commercial agricultural production remains an impediment to development of the industry.

(b) Climate. A relatively short growing season, with moderate risk of late Spring and early Fall frosts, combined with a less-than-ideal pattern of season rainfall seriously constrain production of many crops. Tobacco, for example, is grown in the southern part of the province, close to shorelines. And feedgrains can be grown commercially only with the insurance of fairly costly drying facilities. Climatic disadvantages are more pronounced in this province than either Nova Scotia or Prince Edward Island; although they are not as strong as those within which Newfoundland agriculture must operate.

(c) Location. Geographically, New Brunswick is closer to major Eastern market concentrations than either Prince Edward Island or Nova Scotia. And, unlike P.E.I., no body of water separates producers from markets. In the absense of other considerations, this is a locational advantage which, given an appropriate institutional and transportation framework, could be exploited in developing external markets. Against this apparent locational advantage, however, must be weighed the even greater advantage of production areas located yet closer to population concentrations. The ability to adequately service markets outside of the anticipated production areas in New Brunswick (or, for that matter, any of the Maritime provinces) is clearly a function of compensatory transportation access: not only must transportation be available, it must be designed to compensate for any inherent locational disadvantages which a principal production area might otherwise exhibit.

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This is not to suggest that, for example, potatoes should be grown anywhere in New Brunswick, and a transport system constructed which allows equal-cost access for these potatoes to Montreal or Toronto markets. Rather, compensatory access would follow from a conscious decision that "export" potatoes would be grown in the Upper St. John River area; and would allow these potatoes to be railed into markets within the cost parameter of other production areas (e.g. Quebec), employing other transport modes (e.g. trucks). If such a transport system could not be evolved, then the decision to concentrate export production in the Upper ST. John would be invalidated.

2. Infastructural

The principal infastructural constraint facing New Brunswick agriculture is transportation. The province's principal agricultural export, potatoes, has in recent years been exposed to a declining rail service. While this has led to the development of at least some trucking alternatives; the higher cost of trucking and the excessive rail cycles have meant a real loss of market for potato producers. It is now widely believed that unless the quality of rail service for potatoes is improved, and an adequate replacement stock of reefer cars maintained, there will be a pronounced contraction of the New Brunswick potato industry within the current decade.

On the plus side, the province has a good system of main highways, adequate for servicing the principal needs of agriculture. While servicing a farm sector which historically has been widely dispersed has been expensive, and has tended to disadvantage those areas without a reasonable concentration of agricultural activity; the increased concentration of farming into commercially viable areas can now be serviced without an excessive loss of aggregate production from those areas now approaching agricultural termination; and done at a reasonable cost to commercial operators.

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3. Social and Institutitonal

Amongst the most serious inhibitors of agricultural development in New Brunswick are the numerous constraints of either social or institutional nature. Because these inhibitors are in most cases nebulous, and rest upon attitudes rather than quantifiable structures, they stubbornly resist correction; even where they can be specified. Although the inhibitors may be broken out, as in the following list, it should be recognized that like all attitudinal variables they are interrelated, cannot be treated as specific ailments. Rather they are more like symptoms, all of which can be made to disappear if the underlying disease is attacked with the right prescription.

(a) Provincial Input into Agriculture. In a province with at least modest agricultural potential, and with markedly limited potential for industrial development other than that related directly to its primary resources, New Brunswick has undoubtably had far less than an optimum level of government input into agriculture. With annual budgets at less than desireable levels, there has been great difficulty in securing for the province specialists to cope with and plan for the economic rationalization of the industry. Not only has the province been unable to compete with the Federal government for personnel, it has not even been able to compete on an equal footing with the other Atlantic provinces. While a better distribution of government funds into agriculture could logically correct this issue; its persistence over the past several years suggest an underlying reluctance to use agriculture as a positive development tool, rather than a struggling, ungainly burden on the province.

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(b) Agricultural Support Policies. Lack of appropriate input by government is clearly evident when looking at recent policy developments. Because of manpower restrictions, provincial policies have been strongly production-oriented; at a time when the real problems of the industry are not production but marketing. But since production policies are more easily developed and administered than marketing policies, production policies is what is developed. At the same time, concentration on policy development is done at a sacrifice of extension and education programs; so that the policies, even when they are appropriate are underutilized, and used by a less than desireable mix of commercial/noncommercial farmers. Thus, for example, a Livestock Incentives Grant is not utilized because not enough of the potential users are aware of its existence, or its potential for them. Many farmer education/extension programs are reaching older and part-time farmers, rather than younger, commercial farmers.

(c) Farmer Attitudes. Lack of adequate provincial input into extension can be reflected in farmer attitudes. Extension is as much a tool for attitude change as it is for education. Thus, a pervasive attitude of accepting the (declining) status quo by farmers is largely a product of insufficient extension effort. This in turn has produced psychological barriers to rationalization in the industry. If, for example, the Grand Falls area were to become, under a rationalized agriculture, a larger center of potato production; it should also become a center for increased beef production based upon utilization of cull potatoes, potato by-products, and the grain crops which would be produced in normal potato rotations. But if farmers are responsive only to market signals (like this year's potato price) and not at all to extension efforts (promoting increased beef production) then a good price year for potatoes in 1973 could inhibit a beef rationalization program for several years.

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(d) Farm Organization. Farmer attitudes are also reflected in a general lack of strong commodity organizations for farmers, and a strong central organixation for the commodity groups. The principal barrier to farmer organization is attitudinal. And without effective organization, producers are unable to cope with a structure of markets which leaves them fully exposed to risk, and subject to economic and psychological manipulation by buyers. To place producers on reasonably equal footing with buyers requires a strong measure of government support. Organizing farmers is time consuming and costly. It takes a dedicated government to assist farmers in organizing to the point where they are independent of, and capable of standing up to that government; particularly when buyer organizations can so quickly demonstrate why producers should not be organized. Being already organized, funded and articulate, it is all too easy for government to listen to buyer groups rather than their producer counterparts. The fact remains that in New Brunswick, as elsewhere in the Atlantic region, effective producer organization is a prerequisite to development of further agriculture.

(e) Market Structure. As a companion to farm organization, it is evident that the absense of effective market structure inhibits growth. Agricultural markets are disorganized, sporadic, and of minimum practicable use to buyers and sellers. Unless agricultural markets in New Brunswick can be reorganized along commercial lines, capable of regular use by brokers, then much of the real potential of this province will be lost. The provision of reasonably-centralized sorting, bagging and distribution facilities for potatoes and vegetables, for example; together with an information system which allows current supply to be

assessed with reasonable certainty; is clearly a development prerequisite.

On the plus side, the teletype auction system for hogs in the province is obviously atuned to today's market requirements; and can do much to enhance the development potential of this segment of the industry.

(f) Quota Systems. Of related interest, New Brunswick has had a quota system for milk which has effectively etherized the industry from market stimulus. With little or no incentive to produce above existing fluid quotas, with unnecessarily low prices for industrial milk, the industry has not responded to the strengthening market for cheese in this country. With strong prices for the primary dairy product (fluid milk); and strengthening capacity of cheese markets to generate better returns for industrial and surplus milk; a more opportune quota system could give the industry an incentive to survive. Without such change, there is only one direction that dairying in New Brunswick can go.

NEWFOUNDLAND

The constraints and advantages facing agriculture in Newfoundland are discussed in the following sections.

1. Natural

(a) Land Base. Newfoundland has a very limited land base for agriculture; with only some 20,000 acres in current production; and perhaps an additional 33,000 acres adjacent to current production areas which could be brought into production relatively easily. An internal study carried out by the Newfoundland Department of Mines, Agriculture and Resources suggests there are vast acreages of land potentially suitable for agricultural development in the province. The economic viability of this use, however, remains to be proven. 1/

(b) Climate. Newfoundland has severe climatic disadvantages which inhibit or prevent the production of most crops. There is a relatively short growing season with early Fall and late Spring frosts.

(c) Location. Newfoundland's location, far from the production area of its required natural and manufactured inputs, makes it an expensive area to service. With only modest population base, and high production and transportation costs, the Island is unable to export any but high-value agricultural goods. Logically, the Newfoundland market should be considered as an extension of the population base, rather than agricultural production base of the Maritimes.

1/ See Appendix 1

Being an island brings with it certain advantages; for example, in the development of disease-free crops. But Prince Edward Island has this same advantage and many more; thus it has far greater capacity to develop this advantage than has Newfoundland.

2. Infrastructural

The principal infrastructural constraint facing Newfoundland is that of transportation, both within and without.

There is only one real highway, the Trans-Canada from Port-aux - Basques to St. John's; along which lie the major markets. This corridor system has led to biaxial warehousing and distribution centres at Cornerbrook, and ST. John's. If agriculture develops near either the highway or major centres of population, this transport-distributional structure becomes less of an inhibitor; since there is no substantive requirement for export services.

To transport goods from North Sydney to St. John's normally takes two days; (and it can take much longer). This increases the cost of foodstuffs and agricultural inputs; but has the advantage of protecting Newfoundland's small but expanding industry. Any decrease in the transportation cost could adversely affect Newfoundland's agricultural output.

3. Social and Institutional

As in New Brunswick, some of the most serious inhibitors of agricultural development in Newfoundland are the numerous constraints of either social or institutional nature. Many of these inhibitors are amenable to change if the right incentive is offered.

(a) Provincial Input into Agriculture. Although Newfoundland has in the past been unable to attract the type of staff it would like, it now has the calibre of staff necessary to fully develop the limited potential of Newfoundland's agriculture. It can be assumed that rank priority will be given to agriculture, as the current Premier attaches at least as much importance to developing these resources as did his predecessor. Given sufficient provincial funding, on a planned basis, there is little doubt that additional agricultual activity can be forseen.

(b) Market Structure. It is generally agreed that market structure, except in a few commodities (e.g. poultry, blueberries) is inadequate and inhibits commercial farm development. In fresh produce, local product is often 25 to 50 % higher in price than imported product; but because consumer loyalty the limited volume of local product now going to market finds ready acceptance. Given the current market structure, it is unlikely that this condition would persist through any large-scale increase in local production.

Nova Scotia

The special constraints and advantages under which agriculture in Nova Scotia operates are outlined in the following sections. While a number of apparent constraints are broken out (resource base, land tenure, farm distribution, markets accessability, institutional structure and so forth) it is obvious that no single constraint is all important. Rather, there appears a complex relationship between the many specific constraints. The following point analysis should thus be read as a unit; and not as a step-by-step obstacle course.

1. Natural

(a) Land Base. Nova Scotia has a land area of 13 million acres, of which in excess of 10 million acres is classed an unsuited to agriculture. Areas of the province having significant acres of cleared farmland, with soils suitable for a wide range of crops have been designated as multi-crop areas or blocks (see John Hilchey, The Soil and Crop Potential of Nova Scotia). These areas total 930,000 acres, of which only 30 per cent is presently cleared. Other areas in actual or potential use (primarily for forage-oriented agriculture) have been desigated limited-use blocks. These areas total 1,911,000 acres; of which 12 per cent is now cleared.

Three major areas, the Northumberland Shore, Annapolis Valley, and Cobequid Shore, have adequate acreages of suitable soils to support major grain production. These areas are, in addition, suited to the production of small fruits, vegetables, potatoes, forages and grain corn. The Annapolis Valley is , as well, an area ideally suited to the production of tree fruits.

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Smaller areas with continued potential for commercial agriculture are: the Antigonish Shore; and the Sydney, Lunenburg and Yarmouth areas (each because of proximity to local and/or export markets).

While in the aggregate availability of suitable land is no obstacle to agricultural development, it has been long evident that the actual distribution of farming, and the pattern of land ownership (both discussed below) have stood in the way of commercial agricultural development.

(b) Climate. Nova Scotia's climate is humid temperate, with annual precipitation ranging from 60 inches in coastal areas to about 40 inches inland; and the frost-free period from 160 days on the south coast to less than 60 days in a few inland valleys. In general the climate, at least in the principal agricultural block areas, is suitable for production of a broad range of crops; given the normal risk of frost affecting some fruit and tobacco crops.

(c) Location. Nova Scotia's basic location within the gateway to North America offers no impediment to agricultural development: provided, of course, transport facilities, routings and rates are not anathema to such development. The specific constraints which <u>have</u> been imposed through transport imbalance are discussed in the following section.

2. Infastructural

(a) Transportation. Over the years transportation, as a concommitant to agricultural development, has exhibited serious limitations in Nova Scotia. Because of a veritable morass of cross-subsidies, cost-absorbing rail rate structures, and a relatively low population (market) density, a viable trucking industry has been slow to develop. Because of absense of strong competition from truck and ship, railroads have been able to design a rate structure which serves their purpose; while ignoring the legitimate needs of their agricultural customers.

While the province presently possesses a core highway system well suited to servicing commercial agriculture in the Cobequid - Annapolis Valley hook; its late development has probably had little positive impact on the agricultrually-regressing North Shore area. Even within the present commercial farming areas, the typical ribbon-development along most paved secondary roads has alone little to facilitate the rapid movement of farm products from field to market.

Since rail freight rates have such a large impact on what agricultural development survives in Nova Scotia, and where; and since rail rates are set in direct proportion to the availability of alternate shipping modes; then any policy, practice, or expenditure which encouraged the development of competitive transport modes - whether on road or sea - would directly advantage agriculture. Clearly, it makes little sence to encourage agricultural (or for that matter industrial) development with locational grants, input subsidies, and "free" technical and administrative services; if that development is allowed to founder on economic rocks of non-competitive transport rates.

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There are many individual transport shortcomings which have inhibited Nova Scotia's agriculture. Even a casual listing would include: inadequate (or unpredictable) air access to the U.S. Northeast; insufficent ferry capacity for trucks at Yarmouth and Sydney; infrequent ocean shipping to potential offshore markets, and inadequate reefer capacity on what shipping there is.

Without positive direction, these impediments will remain; invalidating much of the real developmental potential which Nova Scotia still possesses.

3. Social and Institutional

As in New Brunswick, the largest and most complex set of agricultrual inhibitors are social and/or institutional in nature. The following section attempts to break these inhibitors down into digestible portions; with the understanding, of course, that they must be considered together, in one great indigestible dinner.

(a) Land Parcelization. Historically, the pattern of land holding in Nova Scotia has been irregular; bearing little relation to the agricultural capability of the land. Many farms were unsuited to modern cultivation requirements, and too small to generate sustainable incomes. Moreover, with properties (at least along the North Shore) described and measured in metes and bounds, property identification and sale have been both costly and time-consuming; placing a very real constraint on land consolidation policies. While the new system of coordinate land survey and title registration now proceeding in the province is basic to the solution of this problem; its rather distant completion horizon ensures that this particular inhibitor will be with us for a long time yet.

(b) Commercial Services. The regression of the North Shore area from commercial agriculture had, at one point, virtually removed the area from an agricultural future. Because of the high cost of servicing the increasingly-scattered farms of a declining agricultural area, agricultural services either disappeared completely or remained only at a high cost/low service level. While the resurgence of feed grain and corn in the area has halted this decline, and reopened the opportunity for future expansion, many high-cost reminders of the past remain. In the Shinimēcas area, for example, it is not possible to purchase bulk fertilizer. Fertilizer must be bought bagged, ordered well in advance of needs and then stored on the farm. In the Annapolis Valley, by comparison, producers can choose from three or four suppliers; and purchase in bag, bulk, or custom spread.

In assessing the potential of an area like the North Shore, it is well to remember that a resurgence of agriculture here will require some attention to the provision of basic supporting services.

(c) Land Use Planning. The virtual absense of land-use planning in the Annapolis Valley is now beginning to strangle commercial agriculture in this prime agricultural area. Land here is not being bid away from agriculture for industrial or even conventional urban development. The potential for industry in this area -- with the exception of industry tied to its natural resources -- is by any standard slight.

Population growth has been modest in the area; and could have been accomodated with an equally modest expansion of existing urban centers. Instead, a pattern of "urban living in the country" --- of a proliferation of new housing along paved secondary roads has, in the absense of effective planning, been allowed to develop. This means that, as well as slowing traffic movement, and the natural flow of product from farm to market, many farmers are now faced with farming in someone else's back yard. The constraint this places, in an environmental age, on any livestock producer need not be belabored.

(d) Land Taxation. Compounding the land-use problem has been a system of land taxation which penalizes the most productive use of land (through higher taxes on developed, tiled, productive fields) and rewards lesser use of the same land (by reducing the tax load on idle, or under-utilized land). The situation in analogous to one pointed out several years ago by Milton Friedman: if you pay people to be poor, you are going to have lots of poor.

Obviously some reform of agricultural land taxation is needed; preferably one which is based on land capability (rather than current use); and provincial in scope. Such a reform should logically be accompanied by a coordinated increase in Land-Use Planning at the municipal level; and an Agricultural Land Banking operation at the provincial level.

(e) Agricultural Marketing. Over the years there has been a consistent pattern of underorganized marketing of local agricultural production; not only in Nova Scotia, but

throughout the Atlantic region. Successive governments have cooperated in maintaining this environment through insufficient attention to and funding of agricultural marketing (whether at the producer, or governmental level).

As a result, farm marketing has consistently fallen short of available markets; individual producers have had scarce success in coping with potentially profitable production opportunities; governments have dabbled in "showing how this marketing thing can be done" at the production level --- with equally scarce success; and brokers --- on whom producers must depend for long-term, large scale market servicing both for local and export markets --- have despaired of local product to the point where it is handled on only a casual basis.

Over the next decade, the health of Nova Scotia's agricultural economy depends to a large extent on two developments: servicing to an increasing extent the provincial market for livestock and livestock products; and exporting higher value fruit and vegetable crops --- both fresh and processed --- to Atlantic and U.S. Northeast markets.

Besides improved transportation service, this development will require substantial increases in marketing effort; including the development of strong producers commodity groups and marketing boards. Only when producers are themselves well organized, and can guarantee a consistent flow of graded product, will the market potential which exists in the area be even approached by Nova Scotia Producers.

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Only when food brokers can assure themselves of local supply, under condition which make it economic for them to develop markets for local product, will real production opportunity expand in this area. The concepts of production expansion, producers marketing boards, and profitable food brokerage are not, in this case, incompatible. Quite the contrary.

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Atlantic Agricultural Potential

If we were to place a planned agricultural expansion within the Atlantic region where it was most suitable, there is little doubt that much of the expansion would be placed in P.E.I.; a lesser amount in Nova Scotia's North Shore - Cobequid - Annapolis Valley horseshoe; with very modest amounts going to New Brunswick and Newfoundland. Prince Edward Island clearly has the most concentrated body of agricultural land resource in the Atlantic region; and has very limited range of low-yielding, non-agricultural alternatives.

Nova Scotia is less well-endowed from a land potential viewpoint; but does have some locational advantages, including a larger provincial market. And while the range of its alternatives is not broad, it is certainly more capacious than is the Island's.

New Brunswick's potential for agriculture is substantially less than its two neighbours; and suffers from so many social and institutional inhibitors to development that we could not logically expect these to be dispelled with what we can expect will be the effort applied by that Province over the next decade. Thus, while its non-agricultural options are not great, they will probably be developed in preference to its agricultural potential.

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Agriculture in Newfoundland must be, by any criteria, an expensive business. Without other overriding reasons, then, we would not expect agriculture to be developed on so thin a resource base as Newfoundland possesses.

These basic locational criteria must, of course, be modified to encompass the planning, direction and stimuli (or lack of these) being afforded agriculture in each province. If, for example, the government of Newfoundland maintains a consistent policy of reaching provincial self-sufficiency in certain food products (notably those which current technology makes technically possible, albeit at high economic cost); and provides the finances to reach this position; then the fact that the same product could be produced cheaper elsewhere becomes irrelevant. In our imperfect real world, then, we must accept certain production anomalies; where these are perceived as economic opportunities within a province.

Given this practical limitation, the following section attempts to assess the real agricultural opportunities in each province; within a context of past and present provincial comprehension of and reaction to these opportunities.

Prince Edward Island

A brief synopsis of the position and prospects of each major agricultural commodity in Prince Edward Island follows.

1. Potatoes

Over the last ten years production of potatoes has ranged between 7 and 11 million cwt. annually. After hovering around the 40,000 acre mark in the early sixties the abnormally high prices of 1965 & 66 induced an increase to more than 50,000 acres. Following generally depressed prices since 1967 and the disastrous 1970 season, acreage had fallen in 1971 to below 40,000. While no completely reliable figures are yet available it is evident that there has been a dramatic parallel fall in number of potato producers over the last five years. The 1966 census recorded more than 2,500 P.E.I. potato producers; a survey in the early summer of 1972 indicated that the number remaining in the more than 5 acre class was between 1,000 and 1,200 producers.

The industry is characterized by generally advanced technology but choatic marketing factors which are best assessed after looking at the different product sub-classes.

(a) Table Stock. Approximately 55 % of the total production is sold as table stock. Between 6 and 20 % of the crop goes on export. While some domestic table stock is sold in the Atlantic region, the vast majority goes to Central Canada. Rising freight rates and deteriorating rail service has put very considerable pressure on this outlet over the past 5 years. P.E.I. has retained a share of this market through consumer preference; but this is being eroded by poor quality control, antiquated packaging and product handling and erratic delivery.

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(b) Seed. Between 15 and 20 per cent of total production is sold as seed. Over the past 5 years seed has been sold to more than 15 countries, including at least one in Europe. The vast majority however, goes to the Southern United States, the Caribbean Islands, and Caribbean Rim countries. The United States, Venezuala, Puerto Rico, and Greece are steady and major buyers.

(c) Processing. In contrast to the general trend in North America the proportion of saleable product which goes into processing is a relatively insignificant 5 % of the total crop. The major plant on the Island went into receivership in early 1971 and the processing situation remains unclear.

(d) Culls. To maintain high standards on shipments, between 10 and 25 percent of total production is culled. At the moment virtually all of this is dumped, save only a miniscule amount fed to livestock.

Potato Prospects

The creation of a marketing organization oriented to the interest of producers and amenable to change is imperative; given this, various opportunities could readily become realities.

(a) Table Stock. Greater sales and higher returns to producers could be expected given producer controlled marketing, aggressive promotion, good quality control, improved packaging, and a revamped transportation system based on a mainland point as a shipping center. Piggyback service on a unit or near unit-train from Moncton to Montreal or Toronto must inevitably replace the system of individual rail cars placed and collected at dozens of Island sidings.

The industry cannot absorb the costs and quality implications of a 20 day cycle for rail cars.

(b) Seed. There are three chief impediments to an expanded and more lucrative export seed trade: first, the elimination of the typically unscrupulous dealer practices which abound in an unorganized and producer under-represented market; second, a through phyto-sanitary clean up of the Island to meet European standards; and third, a strategy based on seeking long term substantial export orders.

(c) Processing. P.E.I. will have some difficulty in competing in conventional items such as french fries and potato chips, due to deficiencies in possible scale of operation. However, there are possibilities, particularly in the field of institutional meals, which could be developed.

(d) By-products. Failure to use or even attempt to use the 1 to 2 million cwt. of cull potatoes each year (most of which are perfectly good, apart from being off-size) is hard to understand. Funds have recently been voted, however, for a study to cover starch extraction, protein extraction and whole dried potato pulp. If the latter is economically feasible there is a ready market on the Island with livestock feeders and the process could utilize as well the 50 % or more of total weight of potatoes which is wasted as culls, nub ends and peelings in the manufacture of french fries and potato chips. Studies in Europe indicate very favourable livestock carcas qualities are produced by using this feed; and it is apparent its value goes far beyond the intrinsic nutirent content of potatoes.

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Vegetables

In spite of proven potential for vegetables (chiefly rutabagas, cole crops and carrots) sales of these crops are relatively small. The key to the whole question is undoubtably producer-controlled marketing. Following the 1971 inception of a rutabaga marketing board (which graded, packed and marketed the product through a single desk selling agency) there was a substantial increase in producer prices, very favourable market acceptance, and resurgence of grower interest. With large Atlantic area deficiencies in other vegetables a similar result can be expected once the crucial problems of exploitive contracts, price manipulation, and tolerance of the ruination of market through the shipping of inferior product, are eliminated.

In 1970 the total of all vegetable and rutabaga acreage was a little over 1,100 acres and grossed approximately $450,000.; this being a small fraction of even present potential.

Tobacco

Flue-cured tobacco was first proved on the Island in 1961 when only 85 acres were grown. Since then the industry has grown to about 3,100 acres producing 3.8 million lbs. of tobacco. The industry has developed in the Maritimes due to the existence of cheaper land and labor and lack of strict acreage controls which exist in other production areas. The chief problems facing the industry are the lower yields achieved here (due to lower heat unit values); problems associated with "new" production land; and the limited expansion possibilities arising from a very tight domestic supply situation. The next five years will probably see controlled expansion to about 5,000 acres; yielding approximately 7 million pounds and grossing upwards of 4 million dollars (compared to the 2.4 million dollar 1971 crop.) This is not a sensational increase, but

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it is important to the Southern Kings County area which had declined seriously due to the limited alternatives from the rather poor sandy soils of the area, prior to the introduction of tobacco.

Small Grains

Approximately 150,000 acres of grain are grown on the Island, of which 75 % is in oats and mixed grain; both of which produce feed unsuited to intensive livestock production. The introduction of new varities of wheat and barley should spark a rapid increase in these high feed value grains; and hopefully within a few years the Island will be able to dispense with the five to twenty per cent of annual requirements which it now brings under the Freight Assistance Program.

Much of the grain is grown in rotation with potatoes and is sold off farms either at or very soon after harvest. This seasonal glut resulted, in previous years, in very low prices which inhibited commercial feed grain production. This impediment is being aleviated by the new government grain elevator which began operations in 1971; and which offers a range of services including cleaning, drying, and grading to Canadian Wheat Board standards; storage and purchase. When Island grain supplies are inadequate the elevator purchases western grain, stores it and sells to the farmer at competitive rates. These services, which have led to higher producer prices for feed grains, more stable prices to livestock feeders and ready availability of feed grains at all times of the year, seem likely to produce a fairly rapid increase in production of wheat and barley. This should underpin increases in the hog and beef segments of the agriculture industry of the Island.

Forages and Corn

Approximately 180,000 acres of forages of all kinds, permanent pasture, specialized pasture, alfalfa and corn are grown on the Island. With favourable climatic conditions and good soils the productive potential remains considerable. Over the last few years there has been a move to general upgrading of pasture and more wide-spread use of alfalfa. However, general utilization of forages together with the introduction and increased acceptance of silage corn will provide a base for a much more productive dairy and beef industry. The successful employment of new varities of corn adapted to the lower heat unit values in P.E.I. will be the key to much expanded beef feeder operations. At present, much of the Island's feeder cattle supply is being shipped to central Canada for finishing. Grain corn is as yet in the early stages of development. Rapid advances are dependent on the production of suitable varities for the local climate. Once these are available new impetus will be given to the dairy, hog and beef finishing enterprises.

Small Fruits

(a) Strawberries. Approximately 250 acres of strawberries are grown on the Island, the bulk of which are used for processing and freezing. Conditions are very favourable, provided necessary transportation modes were introduced, to exploit the huge North Eastern United States market. This market, virtually competition-free, due to the later season on Prince Edward Island. Strawberry production for processing is declining elsewhere in Eastern Canada while prospects for this industry remain excellent in Prince Edward Island. An aggressive producer-controlled marketing system is the key factor in the development of this crop. Long-run potential has often been stated to be at least ten times present potential; and given the right stimulus this goal is certainly within the bounds of the possible.

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(b) Blueberries. Considerable advances have taken place recently in blueberry culture, with modern practice being rapidly accepted by growers. Production still varies widely depending on the season but is normally around one million pounds annually. Demand in Eastern Canada and the northeast United States normally far exceeds supplies locally available, giving considerable room for expansion.

(c) Raspberries. There is little or no commercial production of raspberries on Prince Edward Island in spite of a keen demand for processing. Small fruits in total represent an area of tremendous potential for Prince Edward Island. Both production and processing are very labour intensive; and any large increase in production would have very favourable effects on the general agricultural economy.

Livestock

1. Dairy

(a) Fluid Milk. Less than 10 per cent of current milk production is sold as fluid milk. Prices are set by a milk commission; resulting in a stable and profitable segment of the total dairy industry. With slowly growing aggregate demand for fluid milk no significant changes are forseen in this segment of the industry.

(b) Manufacturing Milk. Approximately 30 % of total milk production is sold as manufacturing milk. This sector has had a varied history due to inefficiency of plant (essentially too many small dairies); an outmoded system of delivery (bulk is now taking over rapidly); and lack of an effective producer organization in the industry. Market conditions have now improved considerably and the industry has enough quota allocated by the Canadian Dairy Commission to expand by at least 25 per cent.

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Chief products are cheddar cheese, ice cream, evaporated milk and cream; with a wide range of speciality products of somewhat lesser significance. With strengthening markets for cheese and specialty dairy products, expansion could be anticipated in this segment of the industry.

(c) Creamery Butter. Almost 50 % of all milk produced is used for butter manufacture. This enterprise is suited for the smaller producers and presents much less of a delivery problem. Butter prices have risen recently and this sector is expected to remain stable with some capacity for programmed increase.

2. Cattle and Calves

Due to the extensive movement of livestock through non-commercial channels, an accurate analysis of the industry is at best problematical. This situation is complicated by the increasing integration of dairy and beef enterprises using cross breeding techiniques. A model of the cattle industry constructed with the data deficiencies noted above might be as follows:

	Dairy		Beef		Total
Inventory:	Bulls	Cows & Heifers	Bulls	Cows & Heifers	
Breeding Stock	1,200	35,000	300	11,000	47,500
Calf Crop	14,000	14,000	4,500	4,500	37,000
Breeding Replacements		(8,000)		(2,000)	(10,000
Balance	14,000	6,000	4,500	2,500	27,000
Sales:					
Breeding Culls		8,000		2,000	10,000
Under 1 yr.	8,000		1,000		9,000
Over 1 yr.	6,000	6,000	3,500	2,500	18,000
Total Sales	14,000	14,000	4,500	4,500	37,00

The data in the foregoing table is at least speculative; since currently only about 20,000 cattle are sold each year through commercial channels. However, even assuming fairly large errors in the estimates it is clear that large numbers of calves are being sold off the Island at very early age; and that a relatively small proportion of these sales is made up of dairy heifers (which command a good price at perhaps 18 months of age,) nevertheless large income opportunities are being lost by not retaining a higher proportion of young stock for finishing. If an additional 5,000 calves were carried through to the feeder stage and 10,000 more were fed out, somewhere in the region of 4 million dollars could be added to the annual cash flow of the Prince Edward Island's beef industry.

With large areas of under-utilized pasture, new prospects with forage and grain corn and a large supply of valuable feed as a by-product from the potato industry (none of which have yet been exploited to any great extent) the prospects for an expanded beef industry in P.E.I. look extremely promising. Enhancing this prospect is the outlook for firm North American beef prices over the long term.

2. Hogs

Hog production on the Island has shown a steady increase over the last 10 years; now running at about 150,000 market hogs compared with approximately 80,000 in the early sixties. Gradings are of high quality, a fact which reflects the quality of stock and husbandry on the Island. Every year an estimated 30,000 weiner pigs worth approximately $400,000. are sold to other areas in the Atlantic region, mainly Newfoundland and Nova Scotia. A commodity board established in early 1971 has had a very marked impact through the negotiations of a new price structure with the packing houses, and the development of a joint government-

producer price stabilization scheme. Its strategy is to encourage steady but controlled expansion. This aim is supported by the Island's largest hog processor, which has a modern plant at present working well below capacity. Production could move to at least 250,000 market hogs annually without pressure on either Maritime markets or Island plant capacity or the productive capacity of the breeding herd.

Significant changes continue to take place within the industry: integrated operations, with the farmer producing (or at least trucking) a significant part of his feed and running a complete farrow to finish operation, and becoming more common. And hog producers having feed mixing capability without the land base to produce their feed requirements have already received significant relief from high feed prices through the developments noted in this section on small grains.

3. Poultry

(a) Eggs. Production of eggs has stablized at about 3 million dozen annually yielding between 1 million and 1.4 million dollars in cash receipts. The industry until the depressed price year of 1971 has been healthy and progressive. However, no great expansion is forseen due to the general capacity of the industry elsewhere in Canada; and the division of the Canadian market into discrete and supply-managed provincial markets.

(b) Poultry Meat. The Broiler industry has increased from virtual non-existance ten years ago to a quarter million dollar industry today. The broiler industry could double in size over the next five to ten years; but no further expansion could be presently anticipated.

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New Brunswick

Historically, the health of New Brunswick's agriculture has been keyed to the state of the potato industry. In good years for potatoes, the whole of agriculture in the province is buoyed up; in poor potato years, no positive developments in other commodities seem able to offset this. It is evident that potatoes must remain the cornerstone of New Brunswick's agriculture over the next decade. Developments in other commodities can, however, complement the potato industry; and at the same time reduce its obvious vulnerability as a "one crop economy". The potential for these commodities is outlined in the following sections.

1. Potatoes, Vegetables & Small Fruit

In agriculture, preventing the loss of a market is sometimes as positive a development as gaining an entirely new market. Just such a situation presently confronts the New Brunswick potato industry. Unless positive steps are taken in the transportation matrix servicing this industry, we could expect it to enter a serious decline within the current decade. Assuming transportation and associated institutional inhibitors are worked upon, some potential appears for a limited expansion within the potato and related vegetable and fruit segments of the industry.

If external markets can be maintained for table stock and seed potatoes, some production expansion could be entertained for processed potato products. A concommitant expansion of vegetable production, for both processing (export) and fresh (local) markets would fit well with this development.

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Some expansion is also possible in select small fruits; notably strawberries and blueberries, for both local and U.S. markets. These products would be marketed either in high-quality fresh form (as in the case of strawberries); or quick-frozen for later institutional use (in the case of blueberries).

Despite more optimistic estimates developed within the province for expansion of this sector of the agricultural industry, it seems unlikely that within currently-forseen markets, more than an added $3 million of new production (farm value) could be contemplated.

2. Dairy

The second-largest segment of the agricultural industry of New Brunswick has been the dairy industry. Although the relative position of dairying will likely decline over the next decade (being based upon a very stable fluid milk market); it will remain important to the overall health of agriculture in the province; and for that reason alone should not be ignored. While there does not appear very much room for expansion at this time; it is obvious that a change in its institutional parameters, and in particular the fluid milk quota system would go a long way toward breathing new life into the industry. Assuming a new quota system, perhaps within a Maritime Milk Pool, some additional production (for cheese manufacturing) would be the likely outcome. Farm value of this production could total an added $1 million to the industry; although in the short term, a more conservative estimate of about half that amount would be suggested.

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3. Poultry & Eggs

While no immediate and/or rapid increases in this segment of New Brunswick's agriculture are forseen, it is expected that the new marketing arrangements for poultry in Canada will allow some expansion in this province. Besides the availability of adequate financing (for some modest increase in building capacity) there are few impediments to this development. Fuller utilization of existing facilities, within a produce-for-the-market, supply-management industry, could yield an addition $500 thousand added production of eggs and $1 million in chicken broilers to farm income within the current decade.

4. Hogs

With local production totalling only a fraction of the provincial market, then given the technical capability within the industry, and an equitable and commercially-oriented marketing system, there is no reason to anticipate less than a major increase in this segment of New Brunswick's agriculture over the next decade. The only impediment to this expansion is the availability of feed grains at prices which are compatible with those paid by producers in other productions areas. (This will be dealt with in later section, Feed Grains.)

Again, while provincial expectations for this sector have been rather larger, we could anticipate an added $2 million annually to farm income through an orderly expansion of this industry by 1980.

5. Cattle and Calves

Given the expected continued strength in North American markets for beef; and the availability of a resource base which could

readily accomodate production increases; expansion of beef production in New Brunswick should clearly be encouraged.

Additional cow-calf operations, together with commercial feedlots located primarily in the Upper St. John River Valley (so as to take advantage of cull potatoes and processing plant by-products), and the commercial feed-out (on corn silage) of calves presently going to feedlots outside of the province, could combine to add from $2 million to $3 million to farm income in New Brunswick. It must be recognized however, that at present, producers non-preference for producing beef in the potato areas is strong; and a wholesale effort is needed to actually generate a sustainable growth in this sector of the industry.

6. Feed Grains

Complementing production increases in potatoes, poultry, hogs and beef, should be a corresponding commercialization of and expansion of feed grains production in New Brunswick. Potato production normally requires grain in rotation. In the absence of a cash market for grain, and facilities for storage and drying (which can be very expensive when placed on each farm) the grain crops which are grown do not produce commercially-useable feeds. (Either the crop is plowed under as green manure, or harvested for on-farm use; in either case the crop being low-value oats and mixed grain.)

Given the development of commercial drying/cleaning/storage facilities an orderly expansion in production of commercial feed grains (wheat, barley and rye) could be accomplished.

Such an expansion could best be encouraged through provision of facilities, centrally located within anticipated grain-growing

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areas, similar to those developed at Malagash in Nova Scotia, and in P.E.I. While the initial cost of these facilities may be high, when compared to the cost of simply encouraging farmers to grow more feed grain through extension efforts; a positive investment by government in facilities which can open up an entirely new cash market for producers is much more likely to succeed.

Assuming such investment in facilities can be undertaken, an increase in feed grain production of $1 million to $2 million annually can be generated. It might be pointed out in passing that encouraging the production of feed grain in the Maritime provinces is a most positive alternative to the Feed Freight Assistance program.

7. Wood Products

Production of pulpwood and sawlogs from farm woodlots in New Brunswick has remained an area of consistent shortfall from estimated capacity. Although the published figures are probably underreported, little more than $1 million annually is sold from farm woodlots. It has been estimated, by comparison, that farm woodlots are capable of a sustainable yield of $10 million annually. Much of the shortfall can be attributed to the organization of the industry; wherein, except in a single county, the organized (and few) buyers face the unorganized (and many, but declining) producers. If this imbalance can be corrected through positive legislation, and positive encouragement of producer organization, there is little question that additional production of $1 million to $3 million could be generated from farm woodlots.

8. Summary

The foregoing assessment has noted commodities in which New Brunswick could expand production within existing and perceived markets. They total 11 to 15 million dollars in basic income which is not being generated within the New Brunswick economy; due largely to institutional, infastructural and attitudinal inhibitors, as well as to a lack of policy direction which would allow this development to happen.

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Newfoundland

As has been indicated earlier, Newfoundland's greatest advantage, within the Atlantic economy, lies in its potential as a market for the agricultural products of the Maritime provinces. Serving as it has, as the last great dumping ground for agricultural garbage in North America, the province possesses an as yet untapped potential for reasonable-quality farm products. (Because of its low income profile, and high transport costs, it is unlikely that the province could support imports of the very high-quality level demanded by, for example, the U.S. Northeast.) This, of course, could be advantageous to Maritime agricultural exporters who were gearing their production to the U.S. Northeast; since it would offer a volume export market for products of insufficient (though otherwise acceptable) quality for the U.S. market.

The capacity of the Newfoundland market for agricultural products may be readily seen in the following estimates of 1972 production shortfalls:

Commodity	Thou. Lbs.
Cabbage	3,119.5
Lettuce	449.0
Carrots	2,890.0
Beets	446.5
Turnips	1,886.5
Potatoes	76,450.0
Greenhouse Tomatoes	990.0
Strawberries	157.2
Pork	21,181.0
Beef	33,202.0
Chicken	12,565.0
Lamb	1,314.5
Fluid Milk	98,360.0

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Current plans within Newfoundland are for major increases in the production of vegetables and potatoes for the fresh market; blueberries and other native fruits for export markets; and pork, beef, lamb, chicken and fluid milk for the local market. (For a complete breakdown of these projected increases, see Appendices 2 and 3.)

Given the state of technology in the industry, availability of feedgrains at competitive prices, and given sufficient injection of provincial funds into the provision of agricultural infastructure and direct farm investment, it is certainly possible to achieve a number of these goals within the decade (notably, production of hogs, chicken and blueberries). While there may be more capacity for increases in vegetable crops, potatoes, beef and dairy, this is obviously going to be an expensive undertaking; when compared with alternative increases in, say Prince Edward Island. Thus increases in these products is more a function of the will of the provincial government than it is a function of economics.

Increases in livestock and dairy production of the magnitude discussed here, if even partially accomplished, mean a very substantial increase in Newfoundland's requirement for feed grain --- a requirement which again could be added to its potential absorption of Maritime farm output.

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Nova Scotia

The most likely development in food wholesaling in the Atlantic region over the next decade is that Halifax will become the food distribution center for the entire area. The size of individual provincial markets, the economies obtained in central warehousing, and developments in retail merchandising and associated distribution systems all support the growth of Halifax as the food distribution center for Atlantic Canada.

Further, the growth of Halifax as a container port gateway for eastern North America; the continuation of offshore oil and gas exploration and eventual development (with direct spin-offs associated largely with Halifax); and the development of the Straits area as a major deep-water port facility and center for a petro-chemical industry; combined with the largest current population base and population concentration in the Atlantic provinces suggests a substantially larger market growth for Nova Scotia than for the other provinces.

These developments woul. further suggest a need for improved air access --- for both passengers and cargo --- with the U.S. Northeast from Halifax.

All these factors combine to yield a strong locational advantage to increased agricultural production in Nova Scotia. These factors underlie the following commodity assessments.

1. Potatoes and Vegetables

   After many years of delining acreage, potato production in Nova Scotia has stabilized at about 70 million pounds. With production increases being planned in the lower-cost provinces of

New Brunswick and P.E.I., it would not be reasonable to expect production increases in Nova Scotia as well. Some effort may be required, however, to ensure that production does not fall below the minimum level to sustain what is at present a viable early-potato and chipping-potato production area in the Annapolis Valley.

Vegetable production, for fresh local, fresh export, and processing markets, is an area of some potential in this province. The latter market, vegetables for processing, is supported by the potential for private-label production from current processing plants. The former markets, for fresh vegetables, will require investment in centralized pre-coolers (which can also be used for fresh fruit, to remove field heat prior to shipment to market); as well as some organizational effort within producer groups.

While investment in pre-coolers (to be located in principal production areas) does not immediately improve price to the grower, it does make fresh produce more readily marketable; and opens the potential for long-run price improvement once the retail outlets become acclimatized to the improved quality level (in terms of condition, shelf life, etc.) of pre-cooled local product. At the same time, some form of grower organization, and improved contract farming arrangements (assuring fair price to growers, in return for more predictable, assured product flow) is a necessary concommitant of increased production in this sector.

Within this setting, production increases of from $1 million to $2 million annually could be advantageously accomodated.

2. Apples and Small Fruits

The very serious adjustments which Nova Scotia's apple industry has had to make in response to market, international trade, and transportation variables in recent years are well documented, and will not be repeated here. A 1969 planning document noted, however, that "Without some positive change, the additional one million bushels of apples which would have flowed from the heavy tree plantings of the early 1960's will be offset by tree removals in the 1970's." To date, it has been the latter --- tree removals --- rather than former =-- positive change --- which has occured.

It will now require a very positive move to sustain this very important segment of Nova Scotia's agricultural economy through its current adjustment process. If the industry receives basic support at this time, through transportation access as well as orchard renewal funds, it should be able to develop markets for fresh and processed products (the latter, as in the case of vegetables, through increased private-label branding) for the million bushels annually of added production which is still at least potentially available from the new plantings of the 1960's. Without the support necessary to sustain this million dollar increase in production, it is quite possible that the industry could face a decline past the point where its processing foundation could further sustain the industry.

Within the other fruit crops, potential exists for increased production of strawberries, blueberries, raspberries and cranberries. A reasonable estimate of market potential for these crops (both fresh and processed) would probably reach $1 million in additional production annually within the decade. As an indicator of even existing potential, despite reasonably high production and export

of fresh strawberries, Nova Scotia is normally a net importer of strawberries (in processed form). Since processing berries are a normal by-product of producing for a high-quality export market, increased production for the U.S. Northeast and Newfoundland also yields useable supplies of processing berries for which a local as well as Atlantic market presently exists. Local markets can, as well, be developed for frozen blueberries; which to date have moved almost exclusively into external markets.

3. Tobacco

Tobacco has been a profitable crop for Nova Scotia producers; and is expected to remain so within the forseeable future. Although industry developments have temporarily halted expansion, it is expected that the suitability of the land resource, availability of labour, and efficiency of the virtually-new production units should assure a production growth of in the $1 million range over the decade.

4. Dairy

After many years of decline (particularly in terms of producer numbers) Nova Scotia's dairy industry has reached a position of some stability, characteristic of other supply-managed sectors of agriculture. Sales of fluid milk have settled on an approximate 200 million pound annual plateau. The fluid quota system assures a consistent supply of product for the market, with surplus going into ice cream, cheddar and cottage cheese production. The strengthening of these latter markets, and accompanying higher prices for milk going into these uses should generate some production increase in the years ahead.

But by far the greatest opportunity this well-structured industry faces is the production possibilites which would open up with a

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Maritime Province Milk Pool. The institutional constraints on this development, however, make it difficult to make any reasonable estimate of its long-term impact on the provincial dairy industry. In the absence of any rapid move in this direction, production increases for strictly Nova Scotia markets will likely be within $ 1 million of current levels.

5. Poultry Meat

Rising per-capita consumption, an aggressive and efficient production base, and the new provincially-oriented market environment for poultry products should ensure continued growth of this segment of Nova Scotia's agriculture.

Increases in production of broiler chicken, roaster chicken, and turkey should add $ 2 million annually to farm income by 1980. The only possible impediment to this development is that governments, through either neglect or by working at cross-purpose to the interests of producers, may not allow the continued development of a legislative framework within which the industry can manage its affairs.

6. Cattle & Calves

Availability of calves and feeders for commercial feeding, a suitable land base for additional cow-calf operations, access to corn silage, and increasing volumes of local grain corn, together with a very strong demand for beef in North America suggest a most favourable climate for the expansion of beef production in Nova Scotia.

Substantial numbers of calves and feeder cattle are presently shipped to markets in New England and Central Canada. Increased production of silage and grain corn in the Annapolis Valley and

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North Shore areas, in association with commercial feedlot operation, could feed out these livestock; leaving them available for within-region slaughter, this later extension yielding typically strong spin-offs to the Atlantic economy.

A production expansion of $3 million annually is well within the present resource and technical capability of the industry; and could be generated with a minimum injection of government funds (typically, to finance from 10 to 20 commercial feedlot operations in the province.)

6. Hogs

Despite problems associated with cyclical overproduction and low prices, hog production has remained an area of considerable potential for Nova Scotia producers. Production has been expanding; and given a continuation of basic support for the industry this trend can be continued and probably accelerated.

Despite the increases of the past decade, current production still amounts to only 40 per cent of the local market requirement. Facilities are modern; and the grade of hogs produced is consistently the highest in the country.

Probably the most viable growth path for this sector would see additional production located in areas of current and anticipated capacity for production of feed grains; so that economies of hog-and-grain farms could be consolidated. This type of development would require substantial new investment in on-farm grain storage, as well as hog production facilities. Further, at least one new slaughtering facility would be required to handle the volume of hogs which could be produced. Assuming provision of these facilities, an additional $4 million annually could be produced and marketed by the end of the decade.

7. Feed Grain

Additional production of feed grains in the province is an implicit assumption of any planned increase in livestock and vegetable crop production. There are extensive areas of the province suited to grain production; and further, production can be fitted to integrated grain-and-livestock farms, in rotation on vegetable farms, and in the right circumstances as a straight cash crop.

There have been two principal inhibitors to the development of commercial feed grain production: the high cost of on-farm drying and storage facilities; and the existence of an alternate grain supply policy (Feed Freight Assistance) for the province's livestock producers.

Grain drying equipment for on-farm use has been designed for and produced in areas where natural gas is the cheapest fuel source. In Nova Scotia, natural gas is not the cheapest fuel; but alternate equipment using fuel oil, for example, is not available. In fact, because of this lack of alternate equipment, some farmers are obliged to pay a higher rate for natural gas for grain drying than for (say, tobacco curing) on the same farm. No such constraint exist for large commercial grain dryers (as at Malagash, or Kensington); which can be fueled with either gas or oil.

The additional fuel costs in farm versus commercial grain dryers, as well as the other input costs which make on-farm cleaning/ drying/storage more expensive than high-capacity commercial systems makes the latter an obvious systems choice if grain production is to be encouraged.

At the same time, the maintenance of the Feed Freight Assistance program has, at least psychologically, inhibited adequate attention to the problems associated with increasing local supplies of feed

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grains. This is not to suggest that the FFA program is bad; and should be done away with. In fact, it has been precisely this attitude on the part of the Federal government ("subsidies are bad; therefor doing away with FFA is good") which has inhibited some needed adjustments in Nova Scotia and Maritime agriculture.

Federal thinking on the Feed Freight Assistance can, by analogy, be compared to digging post holes. If the "Feds" wanted a better posthole, they normally are reluctant to do anything but dig the old posthole deeper. On occasion, it is advantageous to look at where the best place for a posthole would be, what shape it should have, and how deep it should be dug; irrespective of the circumstances which might have lodged the other posthole elsewhere.

It seems incredible that an industry (intensive livestock production) could have been encouraged to develop through a policy (FFA) of 30 plus years standing; and that having reached a philsosphic position that, since policies of that sort (subsidies) were no longer fashionable, the policy should be abandoned through an erosion of supporting funds. It is no wonder, when faced with thinking of this calibre that livestock feeders in Nova Scotia and elsewhere sought to establish the requirement for continuation of FFA, to the exclusion of any alternative.

Clearly, the encouragement of increased local feed grain production is such an alternative --- provided this is not used simply as an excuse to administratively reduce FFA. Rather, a policy which increases local production of feed grains, if successful, would be reflected in a reduced requirement for Western feed grains, and the payments under the FFA program would be reduced without any change in the policy itself. Within the forseeable future, the FFA policy would of course be retained, to ensure availability of feed grain to livestock feeders at competitive rates.

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The best encouragement which potential feed-grain producers could receive would be the availability of a cash market for their production, at fair price levels; together with availability of commercial drying/cleaning/storage facilities for the crop. The provision of new facilities of this type by government, with drying and storage charges geared to ensure reasonable returns to efficient producers, would go a long way towards generating the feed grain supply which this province currently requires, and will require into the future.

The first of these new facilities should be located at Port Williams. In this location an adequate volume of new production could be generated from the existing land base (much of which is under-utilized, at least on a rotational basis, because of the absence of a cash market for grain). At the same time, the elevator capacity of such a facility could receive adequate utilization through off-season storage of imported feed grains. And further, the simple existence of such a facility at an ocean dockside provides a spur which railroads seem to require in establishing competitive rates for the movement of feedgrains and other feedstuffs. Additional facilities of this type would probably be required, as well, in other potential feed grain areas as this development advanced.

Given the commitment to this strategy, an increased production of feed grains of from $2 million to $5 million annually could be anticipated.

8. Summary

The foregoing assessment suggest that, given a revision of certain policies, and provision of adequate financial investments and incentives, additional agricultural production of from $16 million to $20 million annually could be generated within the Nova Scotia economy by 1980.

Aggregate government and institutional inhibitors of Atlantic region development.

Many factors are responsible for the generally lower indices of size, capitalization and efficiency of Atlantic farms. Some of these are crucial; others well on the way to solution; and others, external factors whose resolutions depends on social, political, and economic change. The significance of each is discussed below.

1) Historical

Settlement in much of the Atlantic region is of long standing and reflects attitudes of the different groups of settlers and an agricultural technology of a different age. Cape Breton is an outstanding example of imported ideas concerning farm size and preferred topography. These choices are far from ideal for modern farming and constitute a problem which is found all through the region (albeit in differing degree). - Veterans settlement schemes emphazing farming as a solution rather than a business have compounded this problem; and it is sad fact that many farms today are resource marginal because of these influences.

2) Increasingly population pressure on a relatively small land resource base until increasing urbanization began the drift from the land has had a fairly pervasive effect on the quality of land brought into use. As pressure on farm-product profit margins has increased and expectation of incomes have risen with the

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rapidly advancing affluence of the non-farm sector, the inability of the resource to produce incomes comparable with the general average has become increasingly clear. Farm policy has necessarily been forced to devote resources to minimize the social implications of a rapid contraction of farm numbers (usually by slowing the rate of farm loss); leaving financial and attitudinal inhibitors to a policy of rapid adjustment for those farms possessing the resource base to be competitive. Although their problem is easing following the rapid consolidation of farm units (particularly in the last 10-20 years) it is still a significant factor affecting policy formulation; and the attitudes and perspective of farmers and their organizations.

The lack of rapid expansion in non-farm job opportunities has produced and still exerts a very powerful effect on the rate of adjustment and consolidation within the industry. In all the Atlantic provinces there are significant proportions of the farm community who are farmers by default (i.e. they would leave at the first reasonable opportunity but nothing suitable has yet arrived.) Marginality can be due just as much to alternatives as to the lack of adequate resources or managerial talent.

3) Social

Difficult as they are to quantity in an economic equation social attitudes are very significant in determining the type of agriculture both present and projected in the Atlantic region. It

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is perhaps ironical that while there has been a very marked increase in enterpreneurial enterprise shown by Atlantic farmers (resulting in some very remarkable changes in some areas) the lack of effort to develop and direct organizations and agri-business activity has often circumscribed the opportunities produced by these changes.

The image of the rough-hewn independent Maritimer or Newfoundlander is charming in a tourist brochure and fertile ground for the sociologist's plough; but is a negative factor in a development plan. The lack of aggressiveness and eventual ossification of the agricultural co-operatives and the slow development of the commodity board concept, (interest rapidly wanes in a less than desparate situation) are good examples of the effect of this attitude.

4) Political

Libraries could be filled with reports, papers, and books which have dealt with the ramifications of the structure and nature of Atlantic politics. In short however the effects have been:

(a) An inability to devote intensive efforts to problem solution; stemming from the small size and lack of affluence of the Atlantic provinces.

(b) Dissipation and disruption of economic effort and resource adjustment through the politicization of almost every facet of life.

(c) Wastage of resources through counter-productive competition (or lack of co-operation) between the Atlantic provinces.

(d) Lack of exploitation of opportunities offered by the Federal government through an overdeveloped suspicion of its motives and dissatisfaction with the relative development rates of the different parts of Canada since promises were first made.

Many of these factors are rapidly being eroded through social and economic change; but all still remain in some degree, constraining both development itself, and even the determination of a high return strategy for agriculture.

5) Locational

The Government of Canada is really an Ottawa government. Its policies, its priorities, its information, its judgement, its entire perspective are characteristically Ottawan. While there may be a philosphic rationale for developing policy within this particular sand box ("the view from here is unclouded by petty local bias" etc.); it is precisely this judgement which cannot be usefully entertained within Atlantic Canada today.

The identification of Atlantic problems, the prescription and ordered cure stemming from Ottawa (even given the propensity of the "Feds" to window-dress their Ottawa decisions with decision-limited local offices) do not fit, in very many cases, the disease to be treated.

It is better to start treating the economic disease as it is

understood by the Atlantic resident himself, and be wrong, then treating the right disease that the Atlantic doesn't believe he has. It is a well-documented medical fact that a doctor must have the confidence of the patient before he can be cured. This might mean that on occasion it is necessary to first treat the disease which the patient thinks he has; so that having cured it, one can begin to treat the disease that is actually killing him.

The location within Ottawa of the vast majority of decision-making of importance to Atlantic Canada is very grave procedural and attitudinal error by government.

6) Decentralization of Federal Agricultural Policy

Federal policy, however well intentioned or prepared, must suffer from one overriding drawback: the requirement of uniformity or near uniformity in all parts of the country must mean a difference in applicability and or advantage to the different regions. This often means a much less than optimal policy from an overall Atlantic point of view; and further divergence in utility to four provinces showing very different situations, problems and prosepects in their agriculture.

It can also be argued that Atlantic problems not shared by other provinces due to the relatively less powerful political and economic leverage of the region can easily be overlooked. One can speculate how successful the effort to ward off the

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emasculation of the Feed Freight Assistance Polciy would have been without the support of Ontario, Quebec and British Columbia.

There are encouraging signs of an increasing, if erratic, willingness to listen on the part of federal agricultural policy makers; but the process is still much too slow. Moreover it is questionable, given the criteria of national uniformity inherent in policy making at the Federal level, if this process can ever effectively confront the complex and sometimes unique problems in the Atlantic area, the individual provinces or even parts of a province.

The following are considered desireable features of federal agricultural policy:

(1) An intensification of the Federal Research effort; but with much greater emphasis on local priorities, and especially on marketing problems.

(2) The retention of Federal inspection functions; but again with flexibility to encourage the development of specialized products which might well require better than Canada Number 1 classification.

(3) The development of much longer-term strategy for overall national goals for agriculture which will provide a base for rational provincial planning. The provincial Ministers' submission of 1971 would provide a beginning for the formulation of this policy.

(4) The replacement of federally administered adjustment policies such as F.R.E.D., ARDA, and the small farm development scheme by a national allocation of a farm adjustment fund to be set

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for a five year period and divided between the provinces on the basis of the following criteria:

(a) The proportion of the national farm total in each province

(b) average provincial farm income compared to the national average

(c) the disparity between average per farm income and average per capita income in the province.

Such a scheme would allow an equitable distribution of funds between provinces, and the full play of locally developed policies to meet local problems.

(5) A long-term strategy to consolidate federal agricultural spending into greater equalization grants which would allow provinces greater choice in developing policies matched to the relative advantages of each sector of its economy.

(6) Modification of existing marketing legislation to encourage the formation of regional marketing structures.

A STRATEGY FOR ATLANTIC AGRICULTURE

Given the special constraints and opportunities facing Atlantic agriculture, the following nine-point strategy emerges.

1. Agriculture should be expanded in those areas where it can be justified, on the basis of production capability, potential market efficiency, and the availability and cost of non-agricultural alternatives within each province.

   This assumes there is no single strategy which is optimal for the entire region; but rather, there should be a provincial and sub-provincial regional strategy which encompases the specific agricultural strengths and weaknesses of each province.

   Such a strategy envisages poles of agricultural production, with some product specialization on a provincial and sub-provincial basis.

   At the same time, the use of Agricultural Land Banking, and Land Use Planning needs to be expanded; particularly in New Brunswick and Nova Scotia.

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2. Production should be expanded or encouraged only in those commodities for which identifiable, pre-determined markets can be developed. In most cases these markets will be within the Atlantic region; although for certain crops national and international markets may be entertained.

An important cornerstone of this strategy must be the expansion of livestock production --- beef, hogs and poultry meat --- in the region. The direct spin-offs from this activity are potentially so large (assuming that livestock production can achieve a scale here which will be competitive nationally) that the absence of this specific production would undermine the maintenance of long-term viability in other sectors of Atlantic agriculture. At the same time, the degree to which local ownership in killing facilities and meat distribution are exercised will determine how many of these beneficial spin-offs are retained within the region.

Further, the extent to which Atlantic producers are able to ship out highly-processed food products to external markets is important. Highly-processed food products are not the "price footballs" in retail stores that, for example, canned foods have been; and there appears some competitive viability exists for Atlantic producers in these products. Certainly the most increasingly dynamic sector of, for example, the potato business in recent years has been in the most highly processed forms of the product. This trend will certainly be with us for many more years.

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3. The concept of producing for prescribed markets can best be promoted through concommitant promotion of strong producer commodity groups; most of which would be expected to mature into producer marketing boards or marketing commissions.

4. Additional investment by government is required if the production potential outlined in this report is to be achieved.

The need for this investment stands out most clearly in grain cleaning/drying/storage systems; and in fruit and vegetable precooling, grading and distribution facilities.

Investment of this type will probably be required in advance of production. Typically, once such a facility is in place, there are more customers for its services than it can handle. In the private sector, however, business is loathe to invest in facilities in advance of consumer demand. An advance jump by government to provide these facilities can be the most positive step it could make within the industry.

5. If it is really thought desireable to have <u>less</u> Feed Freight Assistance rather than <u>more</u>; this objective can be realized only through alternate provision of competitively-priced feed grains. Anything which makes more profitable (or less risky) the production of feed grains in this region reduces the amount of funding needed to maintain the FFA program.

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The obvious implication is to spend more money creating suitable facilities to support local feed grain production; rather than budgeting less money for FFA in the hopes of eliminating the policy from that side.

6. To achieve a more competitive, responsive Atlantic agriculture, there must be a decentralization of National Agricultural Policy; in favour of increased Provincial responsibility and initiative.

7. In keeping with this decentralization of agricultural policy, funding of agricultural development should be through the periodic Equalization/Tax Sharing negotiations between Federal and Provincial governments; rather than through special initiatives such as ARDA and FRED.

8. While individual provincial development plans will characterize Atlantic agriculture, this should not inhibit the development of regional marketing schemes for such commodities as milk, tobacco and potatoes.

9. A complete restructuring of Atlantic transportation, rates and services is the perequisite to the full development of the area's agricultural capability.

The Impact

A full analysis of the impact of the foregoing strategy upon the Atlantic region is obviously beyond the scope of this report. However, some general indicators of the size of its effect can be drawn.

Assume, for example, that in line with the provincial capability analyses, it would be possible to generate the following increases in Atlantic agricultural production:

Prince Edward Island	$22 million
New Brunswick	$13 million
Newfoundland	$ 5 million
Nova Scotia	$18 million
Total	$58 million

Assume further that each $1 million of added farm sales yields an increase in farm net income of $250,000.

Assume that it requires $5,000. of net income annually to maintain one individual in direct farm employment (either as owner/operator, or hired worker, or any combination).

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Under these circumstances, $1 million of added farm production can be related to direct farm employment for 50 individuals.

Assuming a 2:1 ratio of spin-off employment to direct farm employment, $1 million of added farm production implies secondary employment for 100 individuals.

For the Atlantic region, then, new agricultural production of $58 million annually can be related to direct farm employment of 2,900; secondary employment of 5,800; and total employment impact of 8,700 jobs.

From an impact viewpoint, it makes small difference whether the 8,700 jobs are new (i.e. through expansion over otherwise constant production); or maintenance and/or upgrading of existing jobs (although the latter is likely to be the real situation.) The strategy yields 8,700 jobs; its absence does not generate 8,700 jobs.

APPENDIX I

AGRICULTURAL PRODUCTION SHORTFALL, 1972 and 1977, NEWFOUNDLAND

Commodity	1. 1972 Market Demand '000 lbs.	2. 1972 Production '000lbs.	3. 1972 Production Shortfall '000 lbs.	4. 1977 Projected Production Shortfall '000 lbs.
Cabbage	16,959.5	13,840.0	3,119.5	4,704.5
Lettuce	749.0	300.0	449.0	519.0
Carrots	5,885.0	2,995.0	2,890.0	3,440.0
Beets	1,551.5	1,105.0	446.5	591.0
Turnips	23,486.5	21,600.0	1,886.5	4,081.5
Potatoes	101,650.0	25,200.0	76,450.0	85,750.0
Greenhouse Tomatoes	1,070.0	80.0	990.0	1,090.0
Strawberries	160.5	3.3	157.2	172.2
Blueberries	Export	2,000.0	Export	Export
Other Native Fruits	Export	500.0	Export	Export
Pork	25,359.0	4,178.0	21,181.0	23,551.0
Beef	35,952.0	2,750.0	33,202.0	36,562.0
Broiler Chicken	14,659.0	2,094.0	12,565.0	13,935.0
Lamb	1,979.5	665.0	1,314.5	1,499.5
Dairy Fluid Milk	113,360.0	15,000.0	98,360.0	108,435.0

Source: Agriculture and Food Potentials, Agricultural Economics Research Council of Canada, Ottawa, 1971.

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APPENDIX 2

1970 AGRICULTURAL LAND USE

AND

RESOURCES IN NEWFOUNDLAND

1.	Land in Production	20,923 acres
2.	Idle Cleared Land	13,465 acres
3.	Land Adjacent to Farming Areas, Suitable for Clearing	19,000 acres
4.	Reconnaissance estimate of land potentially suitable for agricultural development	
	Mineral soils, mainly wooded podsols	750,000 acres
	Organic soils, mainly peat bogs (easily accessible)	957,000 acres
	Open barrens (for improved rangeland pastures)	837,000 acres

Source: Internal study, Agriculture and Co-operatives Division, Department of Mines, Agriculture and Resources, St. John's, Newfoundland, 1970.

APPENDIX 3

AGRICULTURAL PRODUCTION GOAL TO 1977, NEWFOUNDLAND

Commodities	1977 Projected Production Shortfall '000 lbs.	1977 Increased Production Goals '000 lbs.	Additional Acres Required 1977	Optimum Farm Size Acres (Animals)	Number of Units Required	% of Increase in Production 1977
Cabbage	4,704.5	2,768.0	138	8	17	20 %
Lettuce	519.0	150.0	10	10	1	50 %
Carrots	3,440.0	2,246.3	149	10	15	75 %
Beets	591.5	221.0	14	10	15	20 %
Turnips	4,081.5	1,080.0	43	45	1	5 %
Potatoes	85,750.0	25,200.0	1,680	200	8	100 %
Greenhouse Tomatoes	1,090.0	80.0	10	1	10	100 %
Strawberries	172.0	.7	-	-	-	20 %
Blueberries	Export	10,000.0	6,667	150	45	500 %
Other Native Fruits	Export	500.0	-	-	-	100 %
Pork	23,551.0	8,356.0	(557,050)	(450)	1,237	200 %
Beef	36,562.0	2,750.0	14,360 (7,180)	400 (200)	35	100 %
Broilers	13,935.0	13,752.0	(4,584,000)	(50,000)	91	650 %
Lamb	1,499.5	665.0	5,000 (10,230)	250 (500)	20	100 %
Dairy Fluid Milk	108,435.0	75,000.0	3,000 (1,500)	50 (25)	60	100 %

1 Community pastures will, in some cases, be an alternative to private pastures in which case, the figure given for an optimum unit would be substantially less for the producer, although the land will still be required in general. In the case of beef, it is possible that the project described later will demonstrate that imported concentrated feed is more efficient for overwintering beef, in which case, the amount of hay lands required would be reduced drastically.

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APPENDIX 4

PRODUCTION AND CONSUMPTION OF POULTRY PRODUCTS ATLANTIC PROVINCES 1971

	Production	Consumption	Surplus	Deficiency
		'000 lbs.		
CHICKEN & FOWL				
Newfoundland	2,984	12,896		9,912
Prince Edward Island	804	3,238		2,434
Nova Scotia	21,402	24,931		3,529
New Brunswick	14,439	19,925		5,486
Atlantic Provinces	39,629	60,990		21,361
TURKEY MEAT				
Newfoundland	14	2,036		2,022
Prince Edward Island	48	603		555
Nova Scotia	1,587	4,970		3,383
New Brunswick	530	3,934		3,404
Atlantic Provinces	2,179	11,543		9,364
EGGS 1/		'000 Doz.		
Newfoundland	9,551	9,607		56
Prince Edward Island	2,965	2,255	710	
Nova Scotia	16,668	16,016	652	
New Brunswick	8,080	12,754		4,674
Atlantic Provinces	37,264	40,632		3,368

1/ Does not include Eggs used for hatching.

Source: DBS, Maritime Office, Truro, N.S.

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APPENDIX 5
PRODUCTION AND CONSUMPTION OF MEAT
ATLANTIC PROVINCES 1971

	Production	Consumption	Surplus	Deficiency
PORK				
Newfoundland	3,278	24,330		21,052
Prince Edward Island	22,796	6,509	16,287	
Nova Scotia	17,318	48,284		30,966
New Brunswick	11,603	37,693		26,090
Atlantic Provinces	54,995	116,816		61,821
Beef				
Newfoundland	1,171	27,880		26,709
Prince Edward Island	15,726	8,328	7,398	
Nova Scotia	17,765	57,989		40,224
New Brunswick	13.055	46,957		33,902
Atlantic Provinces	47,717	141,154		93,437
VEAL				
Newfoundland	132	731		599
Prince Edward Island	302	313		11
Nova Scotia	1,059	2,761		1,702
New Brunswick	1,455	2,284		829
Atlantic Provinces	2,948	6,089		3,141
MUTTON & LAMB				
Newfoundland	387	1,096		709
Prince Edward Island	181	257		76
Nova Scotia	774	2,130		1,356
New Brunswick	482	1,650		1,168
Atlantic Provinces	1,824	5,133		3,309

Source: DBS, Maritime Office, Truro, N.S.