Executive Summary: Farm Economic Viability in Nova Scotia

The ability to generate an adequate income from farming enables farmers to devote resources to quality food production and to land stewardship that is essential to maintaining the value of natural capital in agriculture.

An *inadequate* return on investment can produce a wide range of negative social and environmental effects, each of which carries significant costs. In extreme cases, when farmers cannot make ends meet, prime agricultural land may be sold and converted to other uses, resulting in the loss of a valuable natural capital asset and a decline in food security for future generations. An inadequate return on investment is therefore not sustainable in the long run from *either* an economic *or* an ecological perspective.

Although total farm cash receipts have risen 12% over the past 28 years, all other indicators of economic viability examined here are showing negative trends. If these trends continue at current rates, we are likely to see the virtual demise of several agricultural sectors in Nova Scotia, including apples, vegetables, beef and hogs.

Due to marketing boards and supply-side price controls, dairy and poultry are faring better than other sectors. Preliminary evidence also indicates that organic food producers who market directly to consumers are getting better prices for their products. Direct marketing avoids most wholesale, retail and other “middle-man” costs that normally reduce the proportion of food price sales accruing to farmers.

Like the Gross Domestic Product at the provincial and national levels, gross farm output and total farm cash receipts (the conventional indicators most commonly used to assess agricultural growth and health) can be very misleading indicators of economic wellbeing. Five additional indicators are therefore presented below that provide more accurate and comprehensive signals of farm economic health. These indicators show that farm sector economic health is in serious decline, *even* when natural resource and social health measures are not considered.

This report is the first data release in the Nova Scotia Genuine Progress Index Soils and Agriculture Accounts. Future reports, to be issued in the coming months, include assessments of soil quality, pesticide use, nutrient use, livestock yield, biodiversity, employment, community resilience, and trade in farm products.

Specific results for the five indicators of farm economic viability are summarized in the next three pages. These results have never before been assembled and publicly presented.

Until now, the farm crisis has been widely perceived as subjective complaints by farm interest groups. This is believed to be the first time in Canada that objective, quantifiable and verifiable indicators of farm economic viability are publicly available as indicators of genuine progress in agriculture. The results and time lines presented in this report were assembled from raw primary data, entered into a database, and combined for the first time into time series that can assess progress over a 28-year time span (1971-1999).

Summary of Indicators and Results

Table 1. Summary of Indicators, Viability Threshold Estimates and Results, N.S.

Indicator	Level	Trends and Results	Viability Threshold	Formula
1. Total farm cash receipts	Province	Increase of 12% over 28 years	Not a GPI indicator	sum of all farm cash receipts
2. Net farm income	Province	Decline of 46% over 28 years	No threshold set	total farm cash receipts – total farm operating expenses
3. Expense to income ratio (%)	Province and farm	Increase from 83% to 90% over 28 years	Less than 80%	(total farm operating expense and depreciation / total farm cash receipts) * 100
4. Return on investment (%)	Farm	Currently ranges from 9.7% to less than zero for surveyed farms	More than 5%	[(net income - value of unpaid labour) / (total assets - total liabilities)] * 100
5. Debt to net income ratio (%)	Province and farm	Increase from 300 to 900% over 28 years	Less than 600%	(total farm debt / total net income) * 100
6. Direct payments to producers and dependency ratio(%)	Province	Subsidies down but dependency ratio increase from 15% to 35% over 28 years.	Less than 20%	Dependency ratio = (total direct payments by government / total net farm income) * 100

1) Net Farm Income

Net farm income is a primary indicator of economic viability and the basis for other indicators considered here. While total farm cash receipts rose by 12%, total *net* farm income in Nova Scotia declined by 46% from 1971 to 1999. Income figures are for the province as a whole, and therefore signify declining viability for the agriculture sector as a whole. They do not provide information on individual farms. Dividing total net farm income by an estimated 4000 farms, average net farm income in the late 1990s is $10,000 to $12,500 per farm per year. Net farm income does not take into account expenses such as unpaid operator and family labour.

2) Expense To Income Ratio

The ratio of farming expenses to agricultural income is a vital indicator of farm viability because it highlights the margin farmers have to work with if they are not to go further into debt. The expense ratio tells us how much farmers are spending to operate the farm (e.g. hired labour, feed, fuel, and crop inputs) relative to their income from farm products and government payments. The higher the expense ratio is, the narrower producer margins are, and the more risky farming tends to become.

The sustainability threshold for the expense to income ratio of a healthy farming sector is estimated at 80%. An expense to income ratio of 100% would indicate a zero margin and no effective return on investment or the farmer's time. An expense to income ratio higher than 100% indicates negative margins and absolute losses.

In Nova Scotia the expense ratio has risen from an average of 83% in the 1970s to more than 90% in the 1990s, due both to higher input costs such as fertilizer, farm labour and farm mortgage costs, and to stagnant farm gate food prices. Price increases for food in stores *have* kept pace with increases in farm input costs, but the benefits of food price increases appear to have accrued to wholesalers and retailers and have not translated into higher prices paid to farmers.

The results indicate that prices paid to producers are inadequate and are not keeping pace with farm expenses, and that farming is becoming less economically viable over time.

3) Return On Investment

Return on investment is another key indicator of farm economic viability. Farmers invest heavily in their farm businesses, but rarely reap the rate of returns that accrue to mutual or pension fund investors, despite the long hours of work necessary to run a farm. A return on investment that is significantly below other investment opportunities discourages large investments in unprofitable farming operations. Given average pension fund returns of 10.2% between 1995 and 1999, the viability threshold is set here at 5%.

Return on investment figures for a limited number of surveyed beef, fruit, hog, and dairy farm*s* in Nova Scotia show that only dairy farmers are making a reliable return on investment. Poultry farm returns were not available, but are likely to parallel the dairy results. Surveyed apple and beef farmers consistently show a return of less than zero. Overall trends, aside from dairy, appear to indicate declining farm sector viability, and have been identified by the Nova Scotia Federation of Agriculture as a serious problem.

4) Total Debt To Net Farm Income Ratio

The debt to net farm income ratio is an indicator of the risk adopted by the farming sector relative to the income it generates, and of the capacity of farmers to make payments on debt. If debt is going up relative to net income, the industry may not be economically robust, or it may be overcapitalized, or it may suffer from income-depressing prices that are not keeping pace with farm input costs. In many cases, a combination of all three factors may be responsible for raising the debt to net income ratio.

Based on historical Nova Scotia averages, the ratio of debt to net income in a healthy farming sector is estimated at less than 600%. In other words, total outstanding farm loans should not exceed six times total net farm income over time. In practice this sustainability threshold will vary according to the actual security of farm income. Supply-managed farms, because of their steadier and more secure incomes, could likely weather relatively higher debt levels, unless interest rates increased significantly.

In the long run, an ascending ratio over time indicates that farmers have to accept higher risks in order to achieve the same amount of net income. The risk-prone nature of farming, which is subject to major fluctuations in weather, price, trade, and pest and disease incidence, further dictates that total debt not be excessive relative to income. High overall debt levels can also contribute to cutting corners at the expense of safety and responsible land stewardship in order to make payments on outstanding debt.

Total farm debt in Nova Scotia is currently more than 900% of total net farm income, a three-fold increase in less than 30 years. The average debt to net income ratio in the 1970s was about 300%.

5) Direct Government Payments To Producers and "Dependency Ratio"

If market mechanisms worked perfectly, farmers would be paid enough for the food they produce so that farm subsidies and other direct government payments to farmers would not be necessary. Given that the price index for farm products is stagnant relative to both farm input costs and store food prices, direct government payments to farmers can be considered an indirect subsidy to those who buy food from farmers (consumers, processors, wholesalers, and retailers), or to those who sell inputs to farmers. Direct government payments to producers should not, therefore, be considered artificial supports for farmers alone, but compensation for market failures.

Since 1971, total net farm income *before* government payments declined by nearly 60% from an average of about $60 million to $25 million in constant 1997 dollars. This has necessitated increasing dependence on government payments. . However, direct payments to farmers also declined from an average of $17 million in the early 1980s to $11 million in the late 1990s (in constant 1997 dollars). Taking both trends into account, the "dependency ratio" (direct government payments to farmers as a proportion of total net farm income) has more than doubled since 1971, as a result of a faster decline in income relative to the change in direct payments.

The declining reliability of market income and the consequent increase in vulnerability and loss of farm independence are indicators of the declining economic viability of provincial agriculture.

Kings County Pilot Survey

An in-depth pilot survey of Kings County farmers in the spring of 2000 confirmed that overall economic viability, and the need for a fair value paid for farm products and for a better return on investment are major concerns for growers. The small sample size of the pilot survey does not allow definitive conclusions, but three comments that illustrate farmers' perceptions of society's response to the farm crisis are reproduced here in order to put a human face on the statistical analyses and conclusions in this report:

- *"Society doesn't recognize the work, risk, and costs to the farmer. It's the middleman that gets the raise."*
- *"Farmers are feeding society without being financially compensated for the work that goes into it. This work is not recognized by society."*
- *"There is not enough knowledge in society about the cost, investment, and risk involved with farming. Maybe if the trucker's strike [at the NB/NS border] had gone on for a few more days, consumers would become more aware of the importance of local farms."*

The only sources of stability and adequate income identified in the survey were (1) quota systems in the poultry and dairy sectors and (2) direct marketing of organically grown food to consumers. Producer cooperatives also appear to carry promise in increasing farmer bargaining power with wholesalers and retailers and to increase farm gate prices.

GPI Atlantic is currently working with Kings County community groups to produce indicators of wellbeing and sustainable development at the community level. Because Kings County is the agricultural heartland of Nova Scotia, this report also constitutes the first data release for the Kings County Genuine Progress Index.