

4 Review of Previous Work

4.1 Research on Participation in Agri-Environmental Programs

It is now widely accepted that financial incentives are an important economic instrument in achieving sound environmental and agri-environmental management (e.g. Terstad, 1999; Weersink *et al.*, 1998; Weaver, *et al.*, 1996; Skerratt and Dent, 1996; Peterson, 1995). Because agri-environmental incentive programs cut across many social and policy boundaries, there are a number of different perspectives on participation in voluntary programs reported in the published literature. This review touches on three of these approaches from work done in the United States, Europe and Canada, including Ontario.

Many studies on uptake or participation in programs have been conducted within the context of agricultural extension (e.g. Curry, 1997; Morris and Potter, 1995). Here the approaches used by agricultural economists have been prominent (e.g. Weersink, 2001; Weersink *et al.*, 2001; Falconer, 2000; Choe and Fraser, 1999; Zinn, 1998).

Such studies often focus on the economic trade-off between financial return from agricultural production and its loss and compensation by participation in conservation programs. Formulating levels of compensation for this potential loss of income is a major preoccupation in this literature. From an economic perspective, Rollins (*in progress*; 1996) and Weersink (*in progress*) are studying the economic relations between wildlife and farming and an economic assessment of environmental policy instruments in southern Ontario. Their work will doubtless be influential in policy-making in Ontario. No published source was found, however, which directly addressed the concept of environmental payments to Canadian farmers as a form of domestic farm support.

A different perspective tends to be taken by planners and resource managers (e.g. Brouwer and Van der Straaten, 2002; Condliffe, 2000; MacFarlane, 2000a; 2000b; Morris *et al.*, 2000; Peterson, 1995). Quite understandably, these researchers often focus on broad public policy objectives, especially concerning the environmental outcomes of programs.

Closely related to the planning literature are researchers who examine different forms of social regulation, public administration, governance and civil liberties (e.g. Grudens-Schuck, 2002; Kontogianni *et al.*, 2001; Egdell, 2000; Yiridoe, 2000; Reed, 1997; Falconer and Whitby, 2000; Michaels *et al.*, 1999). These works and the perspectives contained within them make important contributions to the subject.

Many researchers believe that fundamental changes in outlook and behaviour toward the land are required to achieve integrated social, economic and environmental sustainability at local or global levels. Therefore, one perspective on uptake in agri-environmental programs focuses on the attitudes, perceptions and behaviours of farmers and other rural land owners (e.g. Beedel and Rehman, 1999; 2000; Weaver, 1996). These are essentially social, psycho-social, or other behavioural studies and use the outlooks and methods of the social and behavioural sciences.

The various approaches to analyzing agri-environmental programs may be simplified into three types; those relating to:

- Economic costs, benefits and risks to farmers of participation;
- Public administration, land management, planning and participatory development; and
- Attitudes and perceptions of farmers concerning agri-environmental sustainability.

Enrolment in agri-environmental programs is likely related to the economic or other policy instrument used by the public or private agency sponsoring programs. We assume that as promotion and incentive levels increase, enrollment in voluntary incentive programs will follow upwards. The instrument used may range from moral suasion with no financial incentive, to incentives paid as part of a voluntary program, to full regulation by law. Participation in programs can be enhanced through economic instruments such as cross-compliance with other agricultural support programs or financial disincentives. Financial disincentives, such as permits or taxes on specific products, may be used to achieve certain aims. Finally, mandatory management practices may be ordered. Compliance to strict regulation can be obtained by licensing and inspection backed up by penalties or other legal action. Whether or not mandatory practices are subsidized or compensated is largely a political decision.

The type of instrument used in agri-environmental programs varies greatly in different parts of the world. The choice of instrument is obviously an important decision for all stakeholders, but is of particular interest to farmers and other rural landholders. The next section explores practices in use in the United States, Europe and in Canada.

4.1.1 United States

The United States Department of Agriculture (USDA) uses the instrument of cross-compliance between production subsidies and many of the conservation programs contained in the Farm Security and Rural Investment Act (also known as the Farm Bill). This means that environmental payments and other incentives are often “coupled” with production subsidies. Because production subsidies in the United States are large, cross-compliance guarantees heavy uptake in agri-environmental and conservation programs, which themselves tend to be very generous.

The rates of participation in conservation programs and allocation of public funds are reported on the USDA website (USDA, 2002), a good example of public transparency and accountability. Participation in the otherwise voluntary Conservation Reserve Program (CRP) is very large. About 463,000 contracts were in place as of October of 2000, involving 31.4 million acres and \$US1.4 billion in payments. Recent amendments to the Farm Bill stand to increase the level of environmental subsidy considerably.

The USDA’s use of cross-compliance between production support and agri-environmental programs influences the decision-making and behaviour of American farmers in a way that simply does not occur in Canada since this country does not use the instrument of cross-compliance and the level of subsidy is much lower. Therefore, we may not assume that conditions affecting participation in Ontario can be compared to those of the USDA programs, even though many other characteristics of agriculture and the environment are similar.

Throughout the US, however, there are also many stewardship and conservation programs at state and local levels. An examination of these and the enrollment behaviour of farmers in them might be more directly comparable to Ontario’s experience. Michaels *et al.* (1999), for example, describe eco-stewardship partnerships in the Adirondacks region of the State of New York. Here they found resistance by farmers to state and regional planning authorities who had oversight of programs. A similar mistrust by farmers of agencies and their personnel involved in Ontario programs has emerged in this report as one of the key barriers to participation in programs.

Any innate stewardship ethic and/or sense of environmental responsibility held by farmers are important to understanding motivations for participation in voluntary programs. For example, Weaver (1996) has produced a behavioural model of the environmental

outputs of two types of American farmers: those who are led by economic self interest as opposed to those who are led by pride or altruism.

4.1.2 Europe

The European Union (EU) uses a “carrot and stick” approach to the agri-environment. This occurs within a comprehensive policy environment established through the Common Agricultural Policy (CAP) and its related rural development regulations. Rigorous codes of farm practice are prescribed, although with considerable regional flexibility within the members states. These are not generally financially supported and may even incur fines and other financial disincentives for non-compliance. This “stick” is an application of the Polluter Pays Principle. In this case the polluter is the farmer.

The EU, however, also supports agriculture heavily through both production subsidies and direct agri-environmental payments to farmers, based on the concept of multifunctionality. Multifunctionality regards farming as capable of producing a number of desirable public environmental services besides the production of food, fiber and hides. Direct environmental payments are made to farmers who participate in programs designed to provide these services. This “carrot” is an application of the Provider Gets Principle. In this case, the provider is the farmer. Current EU policy hopes to reduce production subsidies by gradually replacing them with environmental programs.

European agri-environmental programs are part of a trend toward post-productivism. This concept acknowledges that an effort to increase agricultural production, in and of itself, is not helpful to long-term agricultural or rural sustainability. Programs paying environmental payments began in the mid-1980s, but gained speed after the 1992 reform of the CAP. Regulation 2078/92 and the more recent Agenda 2000 policies aim to shift support away from production subsidies to direct support for rural and environmental sustainability. The programs under this reform began as voluntary programs but later trended towards cross-compliance. But even when they were voluntary, uptake was very large and many programs were over-subscribed. As in the United States, the level of environmental subsidy is very high in the EU.

Geographer Geoff Wilson, of King’s College in London, is an important analyst and evaluator of Europe’s agri-environmental programs (see Bibliography and References). He stresses the importance of establishing indicators and other criteria for evaluating the success

of programs. He also takes the approach of analyzing changes in farmers' attitudes and conservation behaviour as a result of participation in programs (Wilson, 2001). His work will be an important addition to theory and methodology for studying barriers to participation in voluntary programs in Ontario and elsewhere in Canada.

Others who have made major contributions to our understanding of the EU agri-environmental programs include: Buller *et al.* (2000), Brouwer and Van der Straaten (2002), Terstad (1999), Van Huylenbroeck and Whitby (1999), Curry (1997), Edgell (2000), Falconer (2000; and Whitby, 2000), MacFarlane (2000a; 2000b), Skerrat and Dent (1996), Morris and Potter (1995) Morris *et al.* (2000) and Whitby (1994).

Post-productivism and multifunctionality are not part of the USDA's approach, although the level of financial commitment from programs remains high in each jurisdiction. Both the US and Europe draw heavy criticism from the international trading community for their heavy support to farming through their environmental programs.

Canada also makes no explicit policy based on post-productivism or multifunctionality in the still-formative Agricultural Policy Framework, or elsewhere in federal policy. Nor does Ontario invoke these concepts in its own policy. In each jurisdiction, the general thrust of agricultural policy is to maintain or increase value-added production, especially for export, while recognizing the importance of economic and environmental sustainability. Canada hopes to achieve this within the regulated marketing systems now in place, despite certain criticisms from the international trading community.

There is a clear and growing separation of policies surrounding rural sustainability and agricultural sustainability in much of Canada, including Ontario. If Canada, or any of its provinces, is to explore a multifunctional or "multi-benefit"¹ agricultural support system based on environmental payments, it will likely draw on European rather than American experience. It is in Europe where these types of programs have been in place longest and where evaluation of them includes a well-defined concern for integrated principles of social, economic and environmental sustainability for rural areas.

¹ The term "multi-benefit" as an approximation of multifunctionality, appears to have been coined by the CFFO.

4.2 Canada and Ontario

Ontario and Quebec are the two provinces which have the most similar bio-physical potential for farming and which also produce many of the same commodities. They also share many of the same environmental risks of rapidly-intensifying and industrializing farming. Environmental and socio-economic concerns, especially about intensive livestock operations, are rising in each province. Economic instruments which provide financial or tax incentives are often used in Canadian practice to address these concerns.

Despite these similarities there are deep differences between these provinces in their approaches to agriculture and the environment. From a public administration perspective, Montpetit and Coleman (1999) have described Ontario and Quebec's divergence regarding the agri-environment. These authors argue that Ontario's approaches rely much more on self-regulation by the farm interest than the more state-driven policies of Quebec. Ontario's policy discussion tends to focus on creating more value in production, to the exclusion of promoting distributive justice². This allows considerable latitude within the province in constructing design, delivery and other program priorities. In contrast, Quebec's institutions do focus more on distributive issues, perhaps at the expense of aggregate value creation. This would include more emphasis on equity in access to public funds and a more uniform delivery of programs. These authors conclude:

Ontario will rely on self-regulation with less intrusion by the state; individual farmers are expected to act as stewards of the environment when they take decisions on production. Quebec follows a more traditional route; governments employ "command and control" legislation backed up with strong enforcement, while providing generous programmes that encourage producers to upgrade facilities for the storage and disposal of wastes. Over time, careful evaluation of policy outcomes might provide useful information on which approach balances the competing economic and environmental objectives.

Montpetit and Coleman, 1999, p. 713

² Distributive justice is that which is concerned with the apportionment of privileges, duties, and goods in consonance with the merits of the individual and in the best interest of society – *Webster's Third New International Dictionary*, 1971.

The divergence in the provinces' approaches may soon converge. Agri-environmental regulation in Ontario is rising through the NMA and related environmental legislation. A current concern is whether public assistance will be forthcoming to Ontario farmers for meeting compliance standards. Under a regime of agri-environmental regulation which serves to replace self-regulation, equity and distributive justice issues will likely come into more prominence, perhaps to over-ride local flexibility.

4.2.1 Environmental Farm Planning

Federally-funded programs for voluntary environmental farm plans have been implemented in Canada since the 1990s. First Ontario, then a number of other provinces, adopted a variant of Wisconsin's Farm-A-Syst program which inspired today's Environmental Farm Plan (EFP). The EFP provides workshops and guidance to farmers to assess their operations and identify environmental problems for action. It now includes a one-time financial incentive of \$1500 to farmers to complete a self-defined action plan. Over half of Ontario's agricultural land base has undergone the EFP process since 1993 (Consulting and Audit Canada, 2002). It is a good example of the self-regulation described by Montpetit and Coleman.

Quebec has chosen a different route to employ the same federal funding. Funding and other help is given to farmers to form local advisory clubs. These may then hire the services of an agronomist or other professional who will assist the club's members to implement desirable stewardship practices.

Environmental farm planning in Canada has been considered successful in raising farmers' levels of environmental awareness. Some provincial delivery agencies, including certain Ontario CAs and the OFA, now require the completion of an EFP in order to access other voluntary agri-environmental incentive program funding. It is a form of environmental cross-compliance. Judging from ongoing commentary in the Quebec farm press, many in the province support this concept of environmental cross-compliance, which is called eco-conditionality in that province.

In 2001, Agriculture and Agri-Food Canada (AAFC), the federal ministry, commissioned an evaluation of EFP-type programs throughout Canada. The first draft of its report was available at the time of writing of this report (Consulting and Audit Canada, 2002). The evaluation included a consideration of behavioural changes on the farm and

barriers to participation in programs. Like the present study, it used focus groups in its methodology. The sections on Ontario concluded that, although difficult to measure and demonstrate, increased awareness and behavioural changes by farmers who had participated in the EFP process had frequently occurred.

The AAFC study included a systematic identification of barriers to participation in the EFP. They are summarized as follows:

- Concern over disclosure of information to groups unsympathetic to farming;
- Fear of discovery of problems which the farmer cannot afford to address;
- Uncertainty about litigation and liability if an EFP is undertaken;
- Lack of understanding or knowledge about the program;
- Inadequate financial incentive offered;
- Lack of longevity of the program itself or follow-up;
- Community acceptance of the EFP representative, and resistance to association with government authority.

The AAFC evaluation concluded that the Ontario EFP program has been more successful with larger farms and committed farmers than those who farm as an adjunct to other occupations. We explore this dichotomy further in Section 5 in our analysis of Primary and Secondary farmers in different regions of the province.

Success of the EFP was said to be driven largely by the agency representatives working directly with farmers. As well, success was thought to have been achieved because the program was “farmer driven, owned, and operated.” The perception of government involvement was seen as threatening by many of the farmers involved in the evaluation. This is despite the fact that the program is publicly funded and hence must be overseen by government. Ultimately spending under the EFP is accountable to the public. The mistrust of government discovered among Ontario farmers suggests further comparison with the Adirondack study by Michaels *et al.* (1999).

The perception that public programs, such as the EFP, are “owned” by stakeholders, as examples of grass-roots self-governance, appears to be enhanced by Canada’s invoking the principle of subsidiarity. Delivery of the EFP has been put with the Ontario Soil and

Crop Improvement Association (OSCIA), a farm-based organization. Canada now prescribes subsidiarity as a form of governance for some types of environmental decision-making. In a few words, subsidiarity means that as much decision-making as possible is deliberately placed with those in society who are most affected by the outcome of the decisions. This shift from top-down governance was strongly influenced by Agenda 21, the major document of the United Nations Conference on the Environment and Development held in Rio de Janeiro in 1992.

Subsidiarity does not necessarily convey complete independence and self-regulation, however. Accountability to the public through government is normally also implied. However, this shift in style of governance toward subsidiarity may have been misconstrued by farm organizations or other stakeholders as “ownership” and a successful wresting of power and money away from government oversight.

One major barrier identified in the AAFC evaluation of EFP was the concern that participation could lead to the disclosure of confidential information, particularly to groups who are not sympathetic to the farming community. It was not stated who these groups might be. There was also a fear that farmers might make unwelcome discoveries about their own practices, or make discoveries which would be beyond their means to correct. These barriers tied closely to farmers’ fear of litigation and uncertainty over liability once an EFP was in place.

A further barrier discovered in the EFP evaluation was that many farmers were not sure exactly what an EFP was, especially among absentee landowners. Thus, lack of knowledge about programs was one of the barriers to participation in the EFP.

From a delivery perspective, another major barrier was lack of assurance that the program and funding would continue in the long term. The participants in the evaluation agreed that the EFP program was not structured for follow-up or monitoring. Many believed that the individual projects within it did not provide enough financial incentive.

A further barrier to success lay in ensuring that the program representative was acceptable to the farm community. Resistance could be expected to anyone associated with a government body or who was not familiar to the local farming community. This barrier would seem to be related to the issues of trust and ownership discussed above.

Ontario has many forms of conservation and environmental programs, both public and private, which are delivered in a regionally flexible manner. The lack of consistency

among Ontario's existing conservation or environmental programs was noted in the AAFC evaluation. At the same time, many farmers were unaware of alternative conservation or agri-environmental programs beyond the EFP.

While the EFP process was seen as complex, support existed for it to become the main provincial program. Support also existed for its use as a requirement for access to additional funding; for environmental cross-compliance, in other words. The review concluded that the EFP would attract more participants if its funding level were increased and made long-term, even if it were to involve cross-compliance. Still, within this scenario, concerns about equity and access to potential future funding and technical assistance remained.

The federal evaluation of environmental farm planning is an important document in the construction of agri-environmental policy in Canada. The findings of this report will likely powerfully inform future national strategies under the emerging APF. Many of the barriers to participation identified in the EFP study have been co-discovered and validated for all environmental incentive programs in Ontario in this report.

4.2.2 OSCIA and EFP

Andrew Graham, a key member of OSCIA, the delivery agency for the EFP in Ontario, contributed his long experience with the program at a presentation in 2002 (Graham, 2002). He identified many of the reasons for the EFP's success and many of the pitfalls agencies might face in designing environmental programs. Briefly these pitfalls were:

- Failing to recognize that economics and ecology are inseparable;
- Failing to identify how the farm will benefit;
- Hastily assembling a program and shut out the farm community during development;
- Pushing for regulation alone to guide environmental behaviour;
- Adding to a patchwork of loosely related and poorly connected short-term programs, delivered through a myriad of agencies and groups;
- Failing to recognize that changes in management to improve one area, may bring detrimental consequences to another; and,

- Ignoring the importance of reputation and rapport in program delivery.

Graham, 2002

As with the federal evaluation of the EFP, many of these points have been identified and confirmed for the EFP and other programs in this report.

4.2.3 Land Stewardship Survey of 2000

In 2000, a coalition of federal and Ontario organizations³ sponsored a major survey regarding the attitudes and behaviours surrounding rural land stewardship (Environics Research Group, 2000). This study included a national sample and a separate Ontario sample of 1,215 rural landowners, of which 795 were farming and 373 were non-farming. The report did not explain why the nation was divided for analysis between Ontario and the rest of Canada.

The survey is not entirely specific to farmers, reflecting the many conservation interests sponsoring it. Perhaps as a consequence, the study was not consistent in differentiating Ontario's farm and rural non-farm landowners, nor did it use the same selection criteria for the national and the Ontario samples.

One finding of the Land Stewardship Survey was that the term "stewardship" meant different things in different parts of the county. Stewardship also meant different things to farmers compared to non-farm rural landowners in Ontario. For 67 percent of Ontario farmers, stewardship meant "keeping the land economically in production." Some 33 percent of farmers felt it meant "voluntarily conserving the natural environment." Among non-farm rural landowners, however, 52 percent took the first meaning and 48 percent took the second. A considerable difference in outlook towards the very meaning of stewardship thus exists among Ontario's rural landholders.

³ AAFC, Canadian Federation of Agriculture, Canadian Forest Service, Canadian Pulp and Paper Association, Wildlife Habitat Canada, Centre for Land and Water Stewardship, Conservation Ontario, Ducks Unlimited Canada, Eastern Ontario Model Forest, Federation of Ontario Naturalists, Forest Gene Conservation Association, with support from the Richard Ivey Foundation, Ontario Ministry of Natural Resources' Climate Change and Ice Storm Recovery Initiatives, Ontario Stewardship.

Without specifying which meaning of stewardship was implied, the survey made a number of conclusions:

- Stewardship considerations were high in importance in land use decisions;
- Many Ontario rural landowners already practiced the principles of stewardship; and
- Many would like to receive information on land management through brochures or manuals.

For Ontario, this study found that the greatest obstacle (or barrier) to increasing wetlands or other nature conservation practices was the need to use land for other uses (29%) followed by money (25%) and time/effort required (18%). Obstacles due to lack of knowledge were reported by 5 percent of respondents.

Ontario rural landowners (including farmers) reported low levels of participation in specific land management programs in the five years previous. These were: the Farm Tax Incentive Program (29%), the Managed Forest Tax Rebate/Incentive (19%), the Wetland Habitat Fund/Ducks Unlimited programs (8%), tree-planting assistance (8%) and Conservation Land Tax Incentive (7%). Only 11 percent of Ontario rural landowners (including farmers) expressed an interest in a long-term agreement with an agency to oversee their forest management.

It was suggested in the Land Stewardship Survey that reluctance to participate in some programs might be related to a traditional sense of independence held by rural landowners. As well, it was found that increasing the incentive levels of programs would encourage more involvement and participation. The issue of trust emerged in the general concluding statement for all of Canada:

...although the research reveals that there may be some barriers to overcome, Canadian landowners are open to a wide range of stewardship initiatives, as long as appropriate initiatives are launched and as long as trusted channels of communication are employed.

The findings of the Land Stewardship Survey suggest that the many independent initiatives promoting voluntary land stewardship in place in Canada and Ontario do have some kind of cumulative impact on conservation. This impact, however, is difficult to identify. Nor is it possible to clearly differentiate and categorize the outcome between farm and non-farm rural residents. In other words, the specific concerns of farmers were not clearly separated from other rural landowners. This decreases the report's use in direct application in agri-environmental programming.

4.2.4 Alternate Land Use Services (ALUS)

One recent initiative on environmental payments which does focus on farmland and its owners is the concept of Alternate Land Use Services (ALUS). This is being developed by an alliance between the Keystone Agricultural Producers of Manitoba and the Delta Waterfowl group in the same province (KAP/Delta Waterfowl, 2002). The ALUS concept is closest in spirit to the CFFO vision in regard to direct environmental payments to farmers. ALUS makes a clear and simple case for direct environmental payments for farmers:

ALUS is based on the concept of paying agricultural producers for rendering ecological services that provide environmental benefits to the public at large from public resources on private land. ALUS provides an incentive-based vehicle for encouraging resource stewardship by landowners, and integrating the environmental demands of Canadians into the mainstream of Canadian agriculture.

KAP/Delta Waterfowl, 2002, p.1

The ALUS concept is maturing rapidly. Its originators hope that it will be expanded to a national program of environmental payments to farmers as a form of income support and environmental stewardship. A pilot project towards this aim is underway in the Haldimand-Norfolk region, one of several other pilot areas in Canada.

If decision-makers agree that programs which deliver environmental payments are most appropriately restricted to farmers, for example as part of the farm support structures, then ALUS may well become a suitable and preferred model within the agricultural community.