

Adaptive Governance of Dynamic Social-Ecological Systems: The Case of the Ontario Environmental Farm Plan (1992–2011)

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The sustainability of environmental stewardship programs is an ongoing concern. The fluidity of multilevel, polycentric social-ecological systems requires partnerships to be flexible and adaptive. As society changes, the foundation of stewardship programs also shift. In this article, Glasbergen's (2011) Ladder of Partnerships is applied to the analysis of three governance regime shifts in the agroecosystem stewardship program, the Ontario Environmental Farm Plan (OEFPP). Six key-informant interviews with pivotal actors within each phase of the program were conducted along with a review of documents and program data. The study finds that changes in the context for, and the governance of, OEFPP are shifting the foundations of the original program. The adverse consequences of these changes for the viability of the program, illustrates the need to understand governance issues. The study supports the call for program analysis that is sensitive to the evolution of the system in question. Specifically, the shifting baseline of social norms and policies that affect the sustainability of stewardship programs that are governmental civil society partnerships. The study concludes that the co-option of bottom up processes

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and programs by top down government interventions can lead to loss of integrity and legitimacy of the programs.

KEYWORDS *stewardship, environmental farm plan, governance, adaptive, polycentric*

INTRODUCTION

The dynamic nature of the civil society/government partnerships and their effect on the long-term viability of stewardship programs is explored in this article. This study discusses how the core mandates of stewardship initiatives can be challenged as they navigate the constantly shifting socio-political scene. Few stewardship programs last long enough to teach us lessons about the forces that both sustain and challenge their long-term viability. The Ontario Environmental Farm Plan (OEFP), at 20, is one such program. This article uses Glasbergen's (2011) Ladder of Partnerships and the concept of adaptive governance (Duit and Galaz 2008; Chapin et al. 2009; Paavola 2009) to address the challenge identified by Folke et al. (2005) of "dealing with systems that are not only cross-scale but also dynamic" (460). This analysis informs us of some of the issues that governance raises for successful stewardship programs.

The need for improved ecologically sensitive farming in the 14 million acres of land over which Ontario farmers are stewards has been well recognized for many years (Sparrow 1984; Ontario Farm Environmental Coalition 1992; Smit and Smithers 1992). As indicated in a recent Royal Bank of Canada (2012) report on the Environmental Farm Plan, "In the 1980s, farmers were spending a lot of time complying with a confusing mishmash of environmental standards and [were] becoming increasingly frustrated" (3). The publication of *Our Common Future* (World Commission on Environment and Development 1987) and the build up to the 1992 Earth Summit catalyzed interest and energy for the protection of agroecosystems in Canada and led in part to the federal government's influential Green Plan (Environment Canada 1990). In the early 1990s, political and social interests combined to move agroecosystem concerns up the political agenda, resulting in new partnerships and the creation of the OEFP program. OEFP is a voluntary education and training (stewardship) program that supports farm families' design and implementation of an action plan prioritizing safe practices and the protection of agroecosystems. The idea was to provide "a very user-friendly education, self-awareness and learning process for farmers" (Harold Rudy, Ontario Soil and Crop Improvement Association (OSCIA), as cited in Royal Bank of Canada 2012, 3). It was initiated by Ontario farm organizations in partnership with the provincial and federal governments. Over the past 20 years, the sociopolitical operating environment has again changed, and these changes are the focus of this study.

TABLE 1 Main steps in the Ontario Environmental Farm Plan (OSCIA 2010)

Steps
1. Attending an EFP workshop
2. Complete the risk assessment using EFP worksheets
3. Develop an action plan
4. Submit the EFP for peer review
5. Implement the action plan

The OEFP was an adaptation of Wisconsin's successful Farm*Assessment*System (Farm*A*Syst). It was supported by previous work in the Ontario Ministry of Agriculture (OMAF) on conservation farm planning (i.e., previous Land Stewardship 1 and 2 programs) and water quality initiatives in the Great Lakes Basin [B—farm leader, D—government]. The main steps in the OEFP are outlined in Table 1. Participants attend a local workshop on the Environmental Farm Plan (EFP) program. They then complete a self-assessment of their farms using the series of 23 worksheets provided by the program. While some worksheets are sector specific (i.e., milk center wash-water and horticultural production), the majority apply to all farms. From this self-assessment process, participants are encouraged to develop an action plan and to submit the plan for peer review. Peer review of EFP action plans is a key feature of the Ontario program. Financial support is only provided to farm families who have a peer-reviewed action plan. The actions funded are known as best management practices (BMPs). The list of current BMPs and worksheets is provided in Table 2. OEFP has engaged more than 35,000 Ontario farm households in over 17,500 environmental improvement projects (Government of Ontario 2009). Since its inception, over 70% of Ontario's farmers have participated in an OEFP workshop (OSCIA 2012). Its initial success led, in the mid-1990s, to provincial level diversification and to the scaling up of the program across Canada. The tensions and opportunities created by modifying the program to suit a national agenda led to new challenges for the EFP in Ontario.

While the program has been the subject of a number of studies (e.g., Klupfel 2000; Grudens-Schuck 2000; Smithers and Furman 2003; Robinson 2006a, 2006b; Knierim 2007; Plummer et al. 2007; Summers et al. 2008), this is the first article to focus on the dynamic nature of the program, and its evolution over time.

BACKGROUND

Adaptive Governance

The study of governance—the process of making and implementing decisions—examines the relationship between different actors in shaping public policy and programs. While numerous definitions of the term

TABLE 2 Self-assessment worksheet themes and best management practice list in the Ontario Environmental Farm Plan Sources: OFEC (1996); OSCIA (2012)

OEFP self-assessment worksheet themes (2nd ed.)	Best management practice categories for federal funding
Energy efficiency	Cover crops
Fertilizer handling and storage	Energy conservation measures for agricultural purposes
Field crop management	Erosion control structures (riparian and non-riparian)
Horticultural production	Farm energy audits
Livestock yards and outdoor confinement areas	Farm water treatment equipment for agricultural use
Manure use and management	Farmyard and horticultural facilities runoff control
Milk centre washwater	Improved cropping systems
Noise and odor	Improved manure storage and handling
Nuisances under the Farming and Food Production Protection Act (1998)	Improved pest management
Nutrient management in growing crops	In-barn improvements for water efficiency
On-farm storage of livestock manure and other prescribed materials	Irrigation management
Pest management	Livestock mortality management
Pesticide handling and storage	Livestock nutrition planning to reduce greenhouse gases
Silage storage	Manure land application
Soil and site evaluation	Manure treatment
Soil management	Nutrient recovery from wastewater
Storage of petroleum products	Ponds for agricultural water supply management
Stream, ditch, and floodplain management	Precision agriculture
Treatment of household waste	Preventing wildlife damage
Water efficiency	Product and waste management
Water wells	Relocation of livestock confinement and horticultural facilities from riparian areas
Wetlands and wildlife ponds	Renewable energy production for agricultural purposes
Woodlands and wildlife	Resource planning
	Shelterbelt and native vegetation establishment
	Upland and riparian area habitat management
	Well water management
	Wintering site pasture management

Sources: OFEC (1996); OSCIA (2012).

governance exist (Rhodes 1996; Lemos and Agrawal 2006), this article is particularly interested in the concepts of multilevel, polycentric, and adaptive governance and governance regimes. Governance regimes are defined as “the wide range of rules, norms, traditions and other institution arrangements (laws, policies) by which decision making is exercised, enforced and modified over time by different actors” (Narayanan and Venot 2009, 321).

The concept of adaptive governance of social-ecological systems draws on the literature from a variety of fields, including complex adaptive systems (Gunderson and Holling 2002; Folke et al. 2005), institutional analysis (Dietz et al 2003; Ostrom 2010) and environment and resources management (Nelson et al. 2007). Adaptive governance focuses on a socially enabling environment for ecosystem-based management that can self-organize at different scales and change over time. Polycentricity is characterized by the involvement of “many centers of decision making that are formally independent of each other” (Ostrom et al. 1961, 831) as well as changes in the roles of decision making agents over time.

In this study, Folke et al.’s (2005) interest in the social dimension of adaptive governance is combined with Glasbergen’s (2011) Ladder of Partnerships to analyze the OEFPP as an example of an adaptive, multilevel, polycentric system. Three phases of the program are used to demarcate different governance regimes, and are tied to the different levels of local (farmer), provincial and federal engagement in the program. The initial phase (1992–2002), referred to herein as the farmer-led phase, refers to the original formation of the program and its early roll out. As indicated by the name, this phase is dominated by the active engagement of farm organizations, which were in turn supported by provincial government staff and federal government funding (see Table 3).

Phases 2 and 3 are strongly identified with the dominant federal agricultural policies of the time. Thus, Phase 2 (2004–2007) is referred to as the Agricultural Policy Framework (APF) phase, and Phase 3 is referred to as the Growing Forward 1 (2008–present) phase. The year 2003 is an anomaly that is included in Phase 2. This year was characterized by the lack of new funding for the OEFPP and the beginning of a renegotiation of the program between the key farm agencies delivering the program and the provincial and federal agricultural departments—the program on the ground was essentially in limbo for a year.

Stewardship

Stewardship is “the responsible use (including conservation) of natural resources in a way that takes full and balanced account of the interests of society, future generations, and other species, as well as of private needs, and accepts significant answerability to society” (Worrell and Appleby 2000, 263). Such initiatives tend to exceed the standards set by regulations, where they exist, and are often driven by nongovernmental organizations (NGOs) advocating for specific issues and actions, as well as by governments where they lack either the legislative authority or the capacity to monitor and environment a regulatory regime (Novak 1998). Governments interested in applying stewardship programs as a policy instrument often seek out third-party NGOs to deliver the programs (Agriculture and Agri-Food Canada 2001). The third

TABLE 3 Description of the three phases of the Ontario Environmental Farm Plan

Timeline	Phase	Key driver	Secondary players	BMP	OFECC Role	Government funding available
1992–2002	Farmer led	Ontario farm producer organizations	Provincial and federal governments	Information about BMPs available; free to choose	Strong policy partners, innovative farmer-led group, EFP main focus	Federal Adaptation Council funding of 500CAD/farm in the first year; increased to 1500 CAD/farm (continued until 2004)
2002–2005	Agri-cultural policy framework	Federal government	Provincial government	Detailed list of eligible projects, expanded national list	Fragmentation with focus on nutrient management, less advocating for environment, more farmers' interests	Up to 30K/farm + cofunding from other civil society and quasi-governmental organizations. Approximately 30–33 million CAD in government funding available each year
2006–present	Growing forward	Provincial government	Federal government	Provincial BMP list	Marginalized, no funding	As above, but limited funding available—approximately 7 million CAD/year total—no funding left after first few weeks of program

parties often have better trust relationships with the target populations. This is the case in the OEFP, where the partnership between NGOs and government resulted in both the formulation of the program and the assignment of an operational mandate to the OSCIA. Stewardship programs commonly focus on one or all of the following elements: a) education and information; b) financial or technical support; and c) volunteer actions (Dietz and Stern 2000); the OEFP includes all three elements. They can also be positioned as either a “carrot” (e.g., by providing positive incentives, such as cost sharing) or a “stick” (e.g., by threatening a negative outcome, such as regulation) (Segerson and Miceli 1998). Such collaborations between civil society and government are part of the larger trend toward new governance (Meadowcroft and Braga 2009).

The OFEC (1992) draws on the concepts of farmers as stewards of agroecosystems: “we, as farmers, as the stewards of 14 million acres of farmland in Ontario, and of the domestic and wild animals which live thereon. Our goal is to maintain the air, water and soil in the most favorable conditions possible.” The relationship between stewardship and the OFEC is explored in detail by Plummer et al. (2007). The authors focus on the characteristics of farm families participating in the OEFP, and in particular the ability of voluntary stewardship programs to identify and address environmental and health risks. They note the important role of social capital in promoting engagement in stewardship initiatives, a point that is substantiated by a global study by Knowler and Bradshaw (2007). In this article, the resilience of stewardship programs over time is of primary interest. Thus, the focus is on the principles, values and power relationships underlying the stewardship program. These elements create the foundation on which the other elements (trust, social capital, collaboration, and partnerships) are maintained over time.

Conceptual Framework: Glasbergen’s Ladder of Partnerships

Glasbergen’s (2011) Ladder of Partnerships focuses on the development of partnerships for sustainable development. Partnerships are seen as vital for driving social change, as they engage a wide range of actors (state, market, and civil society) with a common interest in a different future. It considers how actors from various sectors of society “restructure and build new social relationships to create a more sustainable management practice” (1). The framework has been applied to understand such diverse topics as standard setting in the palm oil sector, environmental technology development in Sweden and research on forest protection in Sweden (von Geibler 2012; Bothma 2012; Widman 2012; respectively).

The Ladder of Partnerships (Figure 1) is a useful analytical framework that links early interpersonal and inter-agency work with the possibility of long-term shifts in the political order. The ladder is comprised of five inter-linked levels, set within a discrete time frame: i) *exploratory*—focused on

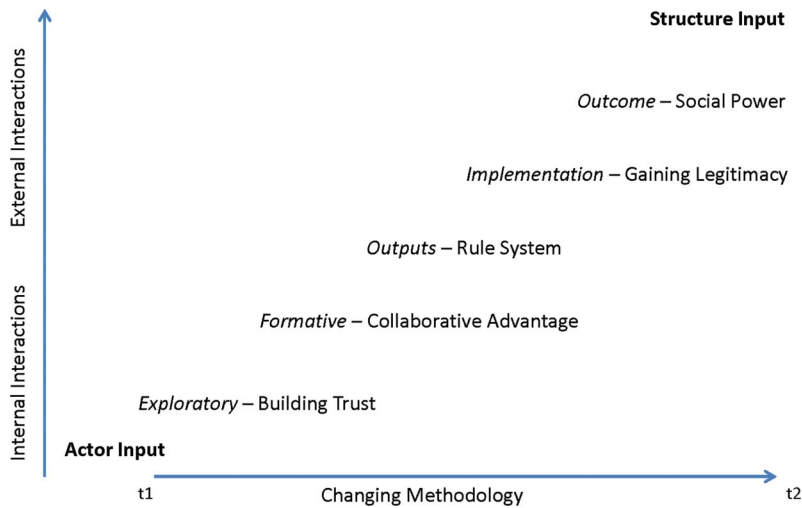


FIGURE 1 Modified summary of Glasbergen's (2011) Ladder of Partnerships.

building trust; ii) *formation* of the partnership—identifying the collaborative advantage; iii) *output*—elaboration of the rule system; iv) *implementation*—gaining legitimacy; and v) *outcome*—exercising the mechanisms of social power. As partnerships progress through the ladder, the methodologies used to maintain the partnership change and the interactions shift from a focus on internal relationships to managing external ones.

This framework is well suited to this study of the OEFP due to the support the program has received from market organizations, particularly farm producer organizations and food processors (the OFEC, see below), the high level of government support (federal and provincial) for the program, and its uptake in civil society—including farm families and other groups, such as Ontario's watershed-based quasi-governmental conservation authorities, landscape protection organizations, and local food movements. The framework (Glasbergen 2011) recognizes that increasingly “public choices have to be made in a multi-actor context” (2) and that “partnership is a continuous process with many feedback loops (11). Glasbergen (2011) acknowledges that his framework “takes a somewhat linear process view, which implies that the policy problem remains constant” (11). He identifies the need for additional research that seeks to understand partnerships as a “dynamic co-evolutionary process” that changes over time (11). This is the gap that this study seeks to address through the application of Glasbergen's framework to three phases of the OEFP.

METHODS

In addition to a review of the primary and secondary literature, a series of semistructured interviews were conducted with key informants. In keeping

TABLE 4 Key informant characteristics and their involvement in the OEFP over the three phases of the program

Code	Role	Active engagement in phases of OEFP
A	Producer organization	1
B	Farm leader	1,2
C	Program delivery	2,3
D	Government	2,3
E	Government	1,2
F	Producer organization	1

with the focus of qualitative inquiry (Janesick 2000; Kvale and Brinkmann 2009), a small n purposive sample was used to identify six program leaders (who have extensive knowledge of the program from initiation to present, with collectively 110 years of involvement in it) and who were key decision-makers in the development, administration, and/or support of one or more phases of the EFP (Table 4). The interviewees included early OFEC members and farm leaders, members of producer organizations, and provincial and federal officials. The interviews were 1–3 hour long, semistructured (recorded), key informant interviews. Confidentiality and anonymity were guaranteed. Themes in the data were identified using the stages of Glasbergen’s Ladder of Partnerships. The thematic data were then coded to explore changes in governance of the stewardship program over time.

FINDINGS

The results are presented using the main categories from the Glasbergen framework (in italics) as they apply to the three phases of the OEFP program (see Table 5), and illustrative quotes from the interviews serve to highlight key themes.

Phase 1. Farmer—Led Stewardship Program (1992–2002)

During the *exploratory stage* of the OEFP, in the early 1990s, the success of the program was tied to the self-organization of the farming community in response to policy changes by a newly-elected provincial government. In direct response to this perceived threat—namely, the “Fear of Grier”—(provincial agricultural Minister, Ruth Grier) the major farming organizations in the province decided to take ownership of the environmental agenda and banded together to form the OFEC. OFEC was an innovative grouping of approximately 30 farm organizations that were represented in the

TABLE 5 Summary of regime shifts in the Ontario Environmental Farm Plan (1992–2010) using Glasbergen's (2011) Ladder of Partnerships heuristic

	Phase 1: Farmer led	Phase 2: Agricultural policy framework	Phase 3: Growing forward
Key actors			
Government	Provincial Ministry of Agriculture and Federal Adaptation Council	Federal, provincial (including other government ministries)	Provincial (including other government ministries), federal
Market	Strong voice of OFEC, supported by farm organizations	Fragmented voice of OFEC and farm organizations	Weak voice of farm organizations
Civil society	Farm families	Farm families, conservation authorities, landscape protection organizations	Farm families, conservation authorities, landscape protection organizations, local food groups
Levels of Ladder			
Exploratory	Significant investment in trust-building both internally between farm organizations and externally with government agencies; motivated by desire to prevent the regulation of farming practices	Federal government cooptation of program idea; declining role of OFEC; changing paradigm with respect to the regulation, limited trust building between the program originators and the governments	Provincial continuation through a smaller core group of farm organizations (OFA, OSCIA); Alienation and marginalization of the farm coalition, driven by regulatory priorities and fragmented by other interests. Major loss of trust
Formation	OFEC formed; leadership of provincial ministry staff; mutual benefits recognized	Difficult negotiation; final agreement two-years into program; Federal program negotiated differently in each province; difference of opinion over value of educational component. cross compliance with non-farm agendas.	No change in roll-out from previous years; farmer expectations not being met
Outputs	Elaboration of EFP pillars, formalization of mechanisms to ensure confidentiality;	some additional reporting requirements; interest in cofunding from new partners	Some additional reporting requirements but still strong support for confidentiality; cofunding expansion to include additional quasi-governmental, government and civil society organizations

(Continued)

TABLE 5 (Continued)

	Phase 1: Farmer led	Phase 2: Agricultural policy framework	Phase 3: Growing forward
Implementation	Rapid, large uptake by farming community	Significant resources available for only two years due to delays; expanded uptake by farm community (70–75%); additional resources from new partners; educational component eroded	Fewer resources than previous program; oversubscribed and quickly sold out. no significant changes to education and awareness component
Outcome	Award-winning, low maintenance, successful program	Massive uptake of EFP training, expectation of significant funding support to implement action plan BMPs	frustration with program; loss of farmer-led identity; program still highly valued
Summary			
Success/failure	Highly successful, mutually beneficial program; instilled new agroecosystem norms in farming community	Highly successful, funding-driven program; less emphasis on normative agroecosystem management; lower profile of farm community	Successful, but frustrated program; lower profile of agroecosystem issues; emphasis on profitability agenda
Locus of control/leadership	Farm organizations	Federal government	Provincial government
Overall Esprit de corps	Farm-level education and awareness-raising, stewardship program	EFP participation to access federal funding and cofunding	Government-led program with difficult to access and limited funding

coalition by four major groups: the Ontario Federation of Agriculture (OFA), Christian Farmers Federation of Ontario (CFFO), AGCare (agricultural groups concerned with resources and the environment), and the Ontario Farm Animal Council (OFAC) (OFEC 1992; Knierim 2007). Concern related to government regulatory intervention, coupled with a widespread social interest in environmental issues (including agroecosystems), catalyzed the farm organizations into action. There was a sense that a proactive approach would better serve the farm community on the environmental issue.

During this *trust-building* stage, the relationships that eventually became the OEFP partnership evolved between the farm organizations and farm leaders and senior bureaucrats in both the federal and provincial governments. While the farm organizations worked well with provincial bureaucrats in the Ontario Ministry of Agriculture and Food (OMAF),¹ there was not a lot of trust in the newly elected government. As one interviewee noted, they “didn’t

want well-meaning yet poorly informed zealots dictating to agriculture how they should manage” [B–farm leader]. OFEC, thus, focused on developing a common vision and on dialogue with all of the major stakeholders.

The *formation* of the OEFPP enabled it to begin *exploring its collaborative advantage*. Its purpose was to provide a non-regulatory, farmer-led approach to proactively address government concerns over the environmental impact of farming practices. It was a small political entity, and the OFEC document *Our Farm Environment Agenda* (1992) is widely seen as its manifesto [B–farm leader]. This influential document served as a rallying point for promoting a farm environment agenda among government agencies and the farm community.

OFEC was facilitated by a neutral chair from the University of Guelph. This strategic partnership set the tone for the program as it was “not government bashing, so [the partners] could collectively rally around the same objectives” [D–government]. It created a “one stop shop for government to talk to agriculture about the environment” [D–government].

In the first phase of the OEFPP, OFEC was a highly effective organization that worked closely with visionary leaders and champions from OMAF. The program began as a pilot in 1993, and became a provincial program in 1995 (Robinson 2006b). The federal government’s Adaptation Council agreed to support the program through the provision of seed funding to farmers to implement their peer-reviewed action plan. This continued until 2004. While the farm organizations “agreed to disagree on many things” [C–program delivery], they also recognized the collaborative advantages that could be attained by working with each other and government. The OSCIA was given primary responsibility for administering the OEFPP program.

The *outputs* of the OEFPP included the program workbook and workshop format for education and awareness raising which brought the government BMP program together with a process for voluntary implementation. It was funded by federal dollars, supported by the provincial technical experts (particularly with respect to the self-assessment worksheets), and advanced by the farm organizations. The stakeholders *constituted a rule system* to guide the operation and roll-out of the program in the province. Elaboration of the principles of OEFPP was a difficult and critical part of Phase 1 of the program, and is widely credited with ensuring its early success. The original principles of the program were: farmer led, confidential, non-regulatory, and focused on education and awareness [A–producer organization]. The position of farmers was that the program was voluntary and the data were not to be shared outside of the farm community. Between 70% and 75% of farm businesses in Ontario have completed the program and there “has never been a report of information being leaked to government” [C–program delivery].

The OFEC position was that the greatest benefit of the program was education and awareness. Government saw the program as a vehicle to

implement government policy that could be delivered at a minimum cost, with maximum buy in from the farm community. The evolution of the program described in this article demonstrates the evolution of these positions and their consequences for the involvement of the agricultural community in the governance of the program.

Although OMAF had a good working relationship with the OFEC groups, other Ministries were seen as more of a challenge—particularly “fish cops” from the Ministry of the Environment (MOE) and the regulators from the Ontario Ministry of Natural Resources (MNR) [B–farm leader]. While OFEC leadership ensured the farmer-led principle—and indeed, the “whole position was industry self-direction” [B–farm leader], ensuring confidentiality was more difficult:

OSCIA went to extraordinary measures to ensure confidentiality.
[C–program delivery]

Without it [confidentiality], the program may have scratched 5%, not 60-70%. [B–farm leader]

It was sacred—no information about individual farmers could be released. [F–producer organization]

In the end, a memorandum of understanding was signed between MOE, MNR, OMAF, and OFEC to ensure that the EFP information not be used for prosecution in any way “that would in any way threaten the integrity of the OEFP program” [C–program delivery]. The importance of confidentiality to the success of the program has been noted by a number of authors (Van Osch 1996; Klupfel 2000, Yiridoe 2000; Smithers and Furman 2003)

During the *implementation* stage, the OEFP got its start as a pilot program in seven Ontario counties in 1993. To some, the training provided was not sufficient:

Some well-meaning, but poorly informed, people feel that the EFP was never good enough, not deep enough. [B–farm leader]

To others, however, the value of the training went beyond the material and became a mechanism for shaping social norms:

Sitting around for a day doing the course creates a mindset . . .
[F–producer organization]

During Phase 1, it was “not the money bringing the people in, but the value of the education piece” [C–program delivery].

The second component of the program was the incentive funding. This modest funding helped to *change the market* for stewardship activities. Although the amounts were originally quite modest, the provision of cost-share funding has been an integral part of the OEFP from the beginning. During Phase 1, cost-share funding of up to 1500 CAD/farm (500 CAD/farm in the first year) was available from the federal Adaptation Council for farmers to implement their action plans (up to 2005). The farmers had a great deal of flexibility in deciding what actions they should invest in. This bottom-up flexibility was one of the features that set the program apart from many other agroecosystem programs. As Robinson (2006b) notes “it is individual farmers that are making interpretations of specific environmental issues to address, albeit with guidance from local peer review committees” (2008). Many farmers have participated in the program without completing the entire process (e.g., through peer review)—often intentionally—and have implemented changes without applying to the program for any funding at all, and this continues to be the case today (Dolan et al. 2000; Smithers and Furman 2002; Robinson 2006a, 2006b). Smithers and Furman (2002), for example, found that 12% of the 123 farmer’s surveyed “chose not to take part in the peer review process, thus making themselves ineligible for funding, but went on to implement their action strategies” (349). From the results of their 2005 and 2006 surveys, Lamba et al. (2007) state that “the EFP is by far the most popular environmental management program though fewer than half actually follow it all the way to the peer evaluation phase” (247).

According to the OSCIA (1999), the average amount of money paid to farmers for implementing measures on their action plans during the first six years of the program was \$1279 CAD. This amount is generally not considered to be high enough to be a significant factor in either encouraging or discouraging participation (Robinson 2006a). Data from the OSCIA (in Robinson 2006b), AGCare (1998), as well as that collected by FitzGibbon et al.’s (2000a, 2000b) survey of 179 farms and Klupfel’s (2000) survey of 370 leaders of 19 agricultural organizations suggest that each dollar spent on direct EFP support has been matched by anywhere from \$3 to \$6 of the farmers own money, and has also included additional in-kind investments in labor. BMPs were not directly part of the OEFP during this phase, but were available as reference resources to help farmers complete their plans.

As an *outcome* of Phase 1 of the program, the reputation of the program grew. It began to receive international recognition and awards, such as the Ontario Pollution Prevention Leadership Award (1998) and the State of the Great Lakes Ecosystem Conference Success Story Award (2000). According to one source, “no program like it on earth has this success for a voluntary program. . . .No. . .one can touch [the success of] EFP using non-regulatory methods” [B–farm leader]. As another example, in 1997, Hilts wrote “The EFP effort is the most comprehensive planning effort in the world from an environmental perspective, and the only such program driven by the farm

community itself.” This success led to some backlash among the participants: “I had the feeling that farm leaders were spending too much time running around taking bows instead of doing the work” [F–producer organization]. The program influenced programs, as far away as Australia, New Zealand, Russia, China, Japan, South America, and the Caribbean, and for work as varied as “Inuit communication polar bear control programs in the North” [C–program delivery].

In many ways, the program was also a victim of its own success:

I was a strong champion of it, but I was responsible for everything that the farm organization did, so if something was working well it didn't get much time and this was working really well. . . . I think you would find a lot of the others would say the same thing. [F–producer organization]

After a decade of growth, and a change to a conservative provincial government, the program was running smoothly, and became widely known in the agricultural community. The political landscape was shifting, however, particularly in Ontario as a result of the Walkerton tragedy (2000) and follow-up [E–government]. In 2000, *Escherichia coli* 0157:H7 contamination of a municipal well in Walkerton, Ontario, attributed to a beef farm in the well-head area, passed through a poorly operated municipal drinking water system. The contaminated water killed seven people and sickened over two thousand. The farm operator was found to run a well-managed operation and had participated in the EFP program. He was not held responsible for the crisis. Nonetheless, the crisis placed increased pressure on the farm community and changed the provincial policy agenda (see Phase 2).

In the early 2000s, in a clear indication of how the OEFP helped to *change the political order*, the federal government expressed an interest in leveraging the success of the EFP to build a program at the national level. Thus, began Phase 2 of the program in Ontario. Other provinces had different experiences with the EFP, which are reported on elsewhere (Montpetit and Coleman 1999; Yiridoe 2000; Alberta Environmental Farm Plan 2002; Robinson 2006b; Plummer et al. 2007; Corkal and Adkins 2008; Atari et al. 2009).

Phase 2. Agricultural Policy Framework (2003–2007)

In the post-Walkerton years, a new phase of exploration and trust-building was required to adapt to the changing political and programmatic situation. Following the recommendations of the Walkerton Inquiry Commission (O'Connor 2002a, 2002b), the provincial government implemented a regulatory approach to nutrient management (2002), source water protection via the Clean Water Act (2006), and environmental protection via the Lake Simcoe Act (2007). During this controversial time, the unity of OFEC was challenged: “the effectiveness of the OFEC group started to be marginalized”

[E–government]. Much of the legislation brought in by the province was regulation of practices already embedded in the OEFP program. As a result the value of voluntary action was significantly diminished. According to one interviewee, OFEC began to fall apart under pressure:

It started in the livestock sector. All of a sudden the one livestock and poultry representative was no longer sufficient to represent their views, so all of a sudden ended up with 3 representatives from that sector, which needless to say, frustrated everyone else around the table. [E–government]

The demand by the animal sector was a reflection of the degree to which the new legislation focused on this sector. This fragmentation made it more difficult for OFEC to bring forward clear policy relevant messages at a critical time. One interviewee stated: “OFEC has changed to a lobby group—looking at nutrient management not as a good thing but as a stress to agriculture—that was not the point of OFEC—the point was to sensitize farmers to the environment and that has changed slightly” [A–producer organization].

As the OEFP program continued to build on its early success in engaging farmers in the process, it attracted additional government interest and attention. The “feds picked it up, wanted to be seen as being more environmentally responsible” [F–producer organization]. In 2004, the federal government adopted the program, significantly increasing the funding available to farmers to implement their peer-reviewed EFP action plans. Despite the national adoption of the program, the federal government was not fully invested in the ideals of the original Ontario program—particularly its emphasis on the education of farm families through the EFP workshops, and on farmers having their choice over which government funded management practices to implement. In the end, the federal EFP was implemented very differently in each province, and a set of nationally-approved BMPs (Table 2) was used to determine the amount of funding a limited number of practices would receive.

The new *formation* stage was challenging and Phase 2 began with a period of transition 2003, when the province “didn’t really have a sanctioned program” [E–government]. There were some significant differences between the federal, provincial and farmer-led agendas that made *exploring the collaborative advantage* more difficult. One interviewee stated: “it took until early 2004 to reach an agreement with the federal government . . . what seemed to take a long time was identifying what role the farm organizations would play . . . Ontario was further ahead than the other provinces and it took a while for the government to understand what we were doing in Ontario. The program wasn’t fitting properly in the right context given all the work that had been done in the 1990s, this led to a longer time frame for negotiations” [E–government].

While the federal program “left [it] to the province to sort out delivery of the program” [E–government], this also required negotiation between the province and the farm organizations. In Ontario, OFA and the OSCIA (representatives of OFEC) were charged with delivering the program locally. This leadership by the OFA contributed to some of the cracks already appearing in the OFEC coalition.

The program that was eventually agreed upon (three years into the federal program) for Ontario addressed the key concerns of all of the parties. The APF included a heavy investment on the part of various levels of government in encouraging full participation (i.e., participation in peer review) in the program by linking access to the significant financial resources in other programs to the completion of the OEFP. The massive increase in federal funding created enormous incentives (for selected BMPs) for farmers to participate in the OEFP. It also directed farmers to implement BMPs that garnered the larger incentives thus making the agenda a government agenda.

As the program developed and the role of OFEC began to decrease, the strength of the ‘farmer-led’ principle diminished [A–producer organization], and the federal government was seen to be “driving the bus” [C–program delivery]. For some, this new program signaled a significant change in the OEFP: “that’s when it changed” [A–producer organization], it became “more government managed” [F–producer organization]. While the farm organizations significantly invested in retaining their voice, the amount of funding available was a substantial motivator to make sure that the issues were resolved. A key impact of the updated federal program was to draw clear boundaries between the education and awareness component of the EFP and the incentives component (FitzGibbon 2004).

With the huge increase in available funding, there was a concurrent demand for better information about the program. In the end, however the APF negotiations only led to “some minor changes” [A–producer organization] in the data provided to government:

Regulatory agencies and ENGOs would have liked to verify what the problems were and what farmers were doing about it. [B–farm leader]

Everyone wanted more monitoring, but with confidentiality they can’t get it. . .The program was monitored only on numbers and numbers have increased as \$1,500 turned to \$30K. [A–producer organization]

During the *output* stage of this phase of the program, the *rule system* changed and the resources and percentage of cost-sharing increased dramatically with up to \$65K available to each farm business, through additional government programs such as the Nutrient Management Financial Assistance Program, Municipal Rural Water Quality Programs, and the Species at Risk Program. The cost-sharing programs fulfilled an earlier objective in the OFEA, which advocated “compliance between funding programs oriented toward

environment, agriculture and the EFP.” According to one interviewee, “it took 12 years in government to act on that principle, that the coalition had articulated” [D–government].

Another key element of the changing vision of the program was the increase in the number of organizations leveraging the EFP program for their own ends. Quasi-governmental organizations, such as watershed-based conservation authorities, as well as new landscape-based foundations, such as the Oak Ridges Moraine Program for Agriculture and the Environment, and the Greenbelt Foundation began to provide additional cofunding to farm businesses within their boundaries that had a peer-approved EFP action plan. In some cases, the organizations supported a limited range of BMPs that best meet their specific local and objectives, for example, water quality or natural habitat.

Cross compliance grew to include premiums in quality assurance programs (e.g., for corn fed beef) if the farm has an EFP and having a peer-reviewed action plan became a criteria for some agricultural certification programs and local food programs, such as Local Food + [C–program delivery]. Financial institutions also started asking for EFPs for insurance and mortgage approvals. A criticism of these cost sharing programs is that they come and go and seek to address issues of the day. They are not long-term programs and it is difficult, if not impossible, for farmers to plan around them [C–program delivery]. The “biggest flaw in designing the programs every 3–5 years—to achieve the environmental goals you would easily need to keep things stable for a 20-year period—if you use carbon sequestration you need to look at 50–100 years period to get outcomes” [E–government].

As other organizations began to build on the role of the EFP in promoting local BMPs, there emerged a concern that “people presume that farmers aren’t addressing the right priorities” [D–government] and additional funding was often tied to specific locally significant BMPs. This led to additional questioning of the OEFP and its so-called “shotgun approach” to BMPs [D–government], which were considered too undirected to lead to changes in environmental conditions on the ground. This focus on outcomes on the land contrasted with the original principle of the program that focused on education and awareness-raising among farm families. Overprescribing BMPs at the local or regional levels can also have negative impacts, however. For example:

... even if my watershed has a nutrient management program, I may be doing all I can already and maybe [with flexibility in BMP funding] can address other issues. [D–government]

In this sense, the role of the EFP is “to raise the bar in terms of how the farmer is thinking about his own operations” [D–government], not necessarily to promote common management practices across the landscape.

Initially, only those with the most recent version of the EFP were eligible for funding. In the *implementation* stage during Phase 2, in 2004, rules were established that allowed anyone with an EFP (from any year/version) to be eligible for money. This *changed the market* dramatically and increased the size of the eligible population. APF funding kicked in late 2005, changing the paradigm of the program. Thirty to \$33 million CAD across Canada in annual funding allowed for farmers to access up to \$30K funding, in addition to the additional cost-share programs available locally and regionally. The increase in funding was a major driver in expanding the reach of the OEFP throughout the province. To some, the increased funding came at a cost to the program's integrity:

The financial incentives started to hardwire EFP. . . [they] bastardized the EFP from a certain perspective. [D–government]

There was a feeling that the original emphasis on education and capacity building for the farm community became less significant than the need to participate in the program to access the cost-sharing for BMPs. The significant increase in resources “encouraged people to attend courses at a higher rate—to get a bigger piece of the pie” [A–producer organization]. The approach to training being offered was, however, also a point of contention during the long negotiation between the federal and provincial governments:

Ontario was successful in making the education component as part of it, the federal government accepted the education component reluctantly. . . because how many times can you take producers through the same course? [E–government]

By the end of Phase 2, some farm families had completed the training program 2–3 times and were finding it less useful [C–program delivery]. While the training did not change, some interviewees noted that changes to law and policy (including regulations), as well as in technology, were enough to warrant repeated participation in the training. The participants valued the peer to peer discussion of their problems and talk about innovative solutions. It became an opportunity for farmers to pick up updated, printed versions of the BMP manuals. In spite of its limitations, the approach was still seen as an improvement on “how we used to do it, to deliver cost share to communities which had no educational component” [C–program delivery]. The philosophy guiding EFP development at that time was that “government cost share money for environmental work should be tied to EFP” [C–program delivery].

Other developments during Phase 2 included the modification of the original program to enhance outreach to specific farming communities. This included developing specific programs for First Nations' farming

communities, as well as Mennonite farmers and—most recently (in Phase 3)—“grape growers and wine makers” [D–government].

As an *outcome* of Phase 2, there was a massive uptake of EFP training and BMP financial support. According to the OSCIA (2012), “Between April 2005 and December 2011, approximately 13,000 farm businesses participated in third edition OEFP workshops and had their EFPs and action plans peer reviewed” (2), and over 310 million CAD was invested in more than 22,000 on farm improvement projects, two thirds of which was contributed by the farm businesses themselves. The roll out of the EFP across Canada changed the context for the Ontario program. With the significant (albeit short term) increase in funding, farmers got used to an expectation of significant support to implement action plan BMPs.

Changes to the political order were also apparent at the end of Phase 2. When the federal government won a new minority government in 2010, it took the opportunity to change its approach to agricultural policy, particularly by devolving responsibility for programming to the provinces. This significant change of emphasis ushered in the third phase of the OEFP.

Phase 3. Growing Forward 1 (2008–present)

In the *exploratory* part of the third phase, there was a need for new investments in *trust building* to counteract a general concern that the program has lost its visibility within the provincial government, and that a new generation of bureaucrats unfamiliar with the program and its unique, farmer-led, history were demanding greater control and accountability from the program:

. . . people, in the 15 years since started, people have lost sight of what EFP did. . . the following bureaucrats may not have the same vision. . . we need the new bureaucrats to understand the history. . . [Knowledge of program] erodes slowly over time, need to be careful [A–producer organization]

As stated by an interviewee, the program now “ebbs and flows with cost share” [C–program delivery]. With respect to OFEC, there has been “no resurgence, it has continued to decline.” Indeed, in 2010, it became a committee of the OFA. The need for the OEFP to fit into the current policy agenda around competitiveness and “farm survival” [B–farm leader, C–program delivery] is a common theme.

In the *formation* of the program in the third phase, the amount of funding available from the federal government decreased substantially, while it also shifted the management of the program to the provinces. In Ontario, the emphasis on education and training as part of the program’s *collaborative advantage* is unchanged. The EFP is widely seen as the “foundation of agricultural stewardship programming in Ontario” [D–government], and

it “makes Ontario agriculture stronger—builds the skill set” [C–program delivery]. The program is seen as “encouraging the farm community to do long-term planning, to set priorities, and take advantage of opportunities as they occur . . . In doing so, by design, by addressing risk you are avoiding the risk from occurring” [C–program delivery]. In contributing to change in social norms among farmers, it addresses the tension between “environmental responsibility versus environmental protection” [D–government]. Several interviewees considered it to be “the best vehicle we have or will have” to enhance the stewardship of agroecological resources in Ontario [D–government]. Despite these positive claims, however, the interviewees noted a number of challenges. There is a sense that it is a “challenge to keep the program dynamic” [C–program delivery]:

EFP was 100 level course, we need 200 and 300 level courses. [B–farm leader]

Also, there is a tension related to how limited funding resources are allocated:

When budgets are tight, is it better to protect money for projects" [as opposed to training]? [E–government]

There is also a call for more technical support related to BMP implementation in order to capture the potential benefits from the action.

The *outputs* and *rule system* guiding the program have also changed during this phase. While the significant funding in Phase 2 created massive momentum for the OEFP, the relative collapse of funding (to approximately 7 million/year across Canada) in Phase 3 has created new challenges. The success of Phase 2 raised the expectation of participating farmers regarding what they could receive for participating. There has emerged a recognition of the need to:

. . .get EFP repositioned as the foundation piece that people should do without cost share. [D–government]

To educate agriculture and let them be at the leading edge of the environmental [debate]. This is not the purpose now—it should be again. [A–producer organization]

With the increased pressure on the EFP to demonstrate results, the peer review process is coming increasingly under pressure. The process itself is considered to be fundamental to the high levels of uptake in the program—farmers trust other farmers to review their plans. It is not without its challenges, however, and interviewees noted that the process can be slow

and that “the peer review may not be done by people who should be there” [A–producer organization]. There is also a sense that peer review is “a pretty basic review, common sense, [the] environmental benefit may be better served by a more technical review—i.e., what the BMP that might be implemented is” [D–government]. There is also increasing pressure on the OEFP to tackle the issue of monitoring and reporting in the program, and thus to tackle the pillar of confidentiality:

[the] confidentiality thing has been oversold—environmental liabilities are now a real thing—you can’t hide behind the thing that your information is confidential anymore. . .as things move forward, we’ll see more demand for the information to become public, the more precise you can be with the public the better off you are. [E–government]

Society is reflected in government decisions, want to show change—soil, water, air, biodiversity, and attribute it to EFP. . .demonstrating these impacts though scientific measure not the mandate of OSCIA or OFEC . . .to do the science and attribute to EFP is tough, but the demands are there, want accountability. [C–program delivery]

During the *implementation* of Phase 3, while the operational structure of the program did not change significantly, the *market has changed* and there is a widespread perception that fewer resources were available to farmers to implement their EFP than in the previous phase. There is frustration with the program among the farm community, as the available funding is over-subscribed “in a mad rush” [C–program delivery] and runs out within weeks if not hours (applications are awarded on a first come first serve basis until funds run out). As noted by one interviewee:

The program is selling out but you have to pay attention to the level of support in the farm community". . .can’t be seen to offer less and less . . .have to be ever cognizant of disincentives, create doubt in the minds of people, they will walk away, get frustrated. [C–program delivery]

Outcomes of Phase 3 include the continued decline of the role of OFEC an ongoing trend toward the engagement of non-farm organizations in the program, and the fact that under Growing Forward 1 (GF1), the province is “driving the bus” [C–program delivery]. Nonetheless, the increased access to cofunding seems to be paying off. According to Harold Rudy of the OSCIA (as cited in Royal Bank of Canada 2012), “In 1999, the average investment in environmental improvements by an Ontario farmer was 53 hours and \$13,557 CAD; 2010 saw this jump to 163 hours and \$69,188 per farm” (3). The increased number of partners has also led to a *change in the political order* that has created a sense that the privileged place (farmer-led) role of

the farm organizations in developing and leading the OEFP program seems to be further dissipating:

In terms of process, the federal government did a great job of soliciting public views. . .the only thing I would note is that as we had built the EFP from a voluntary producer base in the 90s and it evolved into more of a government-run program. The consultation that took place in GF didn't recognize the privileged position for the farm organizations that had been there from the beginning. So a CA [conservation authority], for example, showing up at the consultation would receive equal weight in its comments as the farm groups. I thought that part wasn't managed that well. [E-government]

With this change in the role and importance of OFEC, there has been a significant shift in the way the OEFP is perceived by the farm community:

I've been uneasy as government has tended to take this thing over and more being seen as a government program, rather than a farm program. . .the EFP was not a creation of governments, it was to the farm associations and the reporting was to the farm associations. [F-producer organization]

Under GF, farm organizations have started to see EFP as a government-led program. OSCIA is still seen as the program lead, which is also a bit problematic. It was supposed to be a farm leadership program—part of the overall agenda for agriculture, but not “about environment, overseen by OSCIA, run by province. . .[it is a] different philosophical package than what started out in 1992. [D-government]

The final shift in the OEFP identified from the interviews is the increasing interest in moving away from a strictly environmental agenda to including a social welfare and economic agenda (the sustainable development trifecta):

OEFP success should expand from the environmental to social and economic—if the farm is not economically successful, it will not be environmentally friendly. [C-producer organization]

These arguments are linked to the concept of payments for environmental services and the idea that farmers “have to profile themselves as having environmental services to provide” [B-farm leader]. Farmer attitudes towards payments for environmental services were explored by Filson et al. (2009) in three Ontario watersheds. They found that 90.5% of the 259 respondents felt that farmers should be paid for providing ecological goods and services to society. These points are echoed by the Royal Bank of Canada (2012):

Canadian farmers can benefit from better understanding how the business of agriculture—indeed global business in general—is evolving to respond to global sustainability challenges. At the same time, stakeholders in the value chain need to appreciate and support Canadian farmers' efforts in being environmental stewards while they preserve and enhance their ability to earn a fair return. (3)

Ongoing debates about the role of EFP in agricultural certification programs, as well as the potential for environmental services to be implemented in Ontario, continue to shape the debate about confidentiality and the future of the OEFP.

Despite the challenges, there remains a great deal of pride in the OEFP program. The final thoughts from the interviewees, included statements such as:

. . . [the] components could change to meet certain ends, but don't change the core—it "ain't broken." [B—farm leader]

[the program is] still wonderful, just different. [C—producer organization]

And,

As you drive across Ontario, and you see the little signs "this farm has an EFP" and you see the trees along the creek and you see the cattle fenced out of the creek and you see pretty good environmental stewardship in Ontario farms, society can thank the EFP for being one of the key stimuli in that. . . [A—producer organization]

These positive comments are reflected in the findings of other studies (Lamba et al. 2007; Filson et al. 2009).

DISCUSSION

The analysis highlights the shift in the locus of control of the program, from producer organizations and the local farm community, to a program dominated by first the federal government and then the provincial government (Figure 2). In addition, there has been a shift in the engagement of civil society, from primarily farm families and farm organization, to a much stronger inclusion of other organizations, such as conservation authorities and local food groups. These shifts have had significant implications for how the program is perceived by farm communities, as well as for the amount of funding available to farm families that complete the EFP action planning education and awareness-raising program. The shift in control has also had

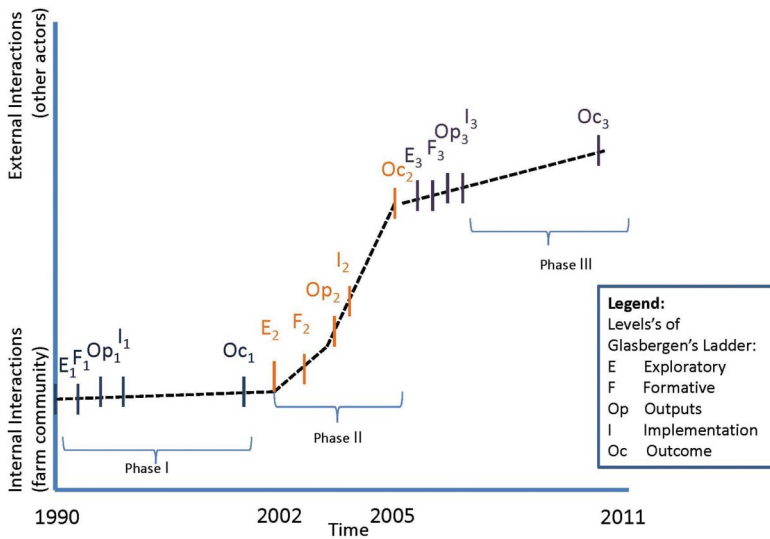


FIGURE 2 Cycles of evolution of governance and program adaptation in the Ontario.

implications for how the funding available is targeted and spent. The specific shifts in the program, interpreted through the stages of Glasbergen’s Ladder of Partnerships were summarized in Table 4, and are discussed in more detail below.

Knowing the history of the system in question is a key element of the systems approach. It has significant repercussions for trust-building in partnerships and thus is fundamental to the interpretation of the changing governance regimes. It is clear from the interviews that the history of the OEFP—particularly its highly principled farmer-led origins—is in danger of being lost, through a lack of investment in developing a strong narrative for the partnership, as well as loss of institutional memory. In addition, in this study, the unique farmer-led approach to the OEFP had particular implications for the balance of program activities in Phase 2, shifting from a focus on education and awareness building to pursuit of funding through the incentives. At the same time, the program shifted from farmer led to government defined priorities. In Phase 3, the foundations have been further damaged by the withdrawal and oversubscription of funding and further loss of the farmer-led identity that supported the OEFP in Phase 1. Involvement of other voices in the direction of OEFP also led to both loss of trust and diminution of the farm voice in defining the program. This study highlights the difficulty of sustaining and adapting effective stewardship programs, particularly those invested in education and awareness-raising, in light of short-term political policy cycles and changing social norms and expectations.

In terms of creating a collaborative advantage, Phase 1 of the program was a clear success in both creating, through OFEC, a “one stop shop” for

government to talk to agriculture. The elaboration of the policy document, *Our Environmental Farm Agenda*, also created a win-win pathway for agro-environmental policy in the province. During Phase 2, the province-wide shift to a more regulatory approach to agroecosystem practices, coupled with an increased demand for enhanced reporting of how public dollars were being spent through the BMP program began a slow shift away from full partner support for the principle of confidentiality. This gradual change in principles may enable program managers to find creative ways to better reflect the success of the OEFP in its monitoring and reporting programs in the future, thus enabling ongoing political support. It does, however, challenge the principle of confidentiality. With this shifting baseline, there is a sense that OEFP training should be part of normal, good farming practice in the province. If this bears fruit over the coming years, this normalization of agro-environmental issues in farm communities may be the biggest success of the program.

The constitution of a rule system for the program in Phase 1 took a significant investment in time in order to make operational the principles of farmer-led, capacity building through education and financial support and confidentiality. The seriousness with which the partners pursued these issues fostered a sense of goodwill that strongly underpinned the initial impressive uptake of the OEFP by the farming community. Over time, the rule system has become more institutionalized and government-led. This may be creating a system that lacks the creativity and responsiveness of the original program. This is particularly apparent with respect to the streamlining of BMP funding and the potential for the broad-scale support for good agro-environmental farming practices to diminish in order to show tangible improvements on the ground.

Challenges in the output stage are highlighted by changes in institutional leadership over the three phases of the OEFP. This shift is a positive one that highlights how multilevel networks can work together to advance and scale up innovative local ideas. It also demonstrates how larger-order systems can stifle innovation and undermine more local systems, or as Folke et al. (2005) state, how there can be:

... barriers, collisions and erosion of social capital and social memory when different cultural values systems, worldviews and discrepancies in conceptualization are brought together and interact. (455)

In this case, the tension between the federal government's adoption of the EFP as a means of enhancing its credibility in the area of agroecosystem sustainability ran into problems in Ontario when it did not initially also support the investment in farm family education that was considered to be key to the program's success in the province. This tension led to significant delays rolling out the APF in Ontario, created the massive and unsustainable outflow

of resources in the two years it was implemented, and created a patchwork of EFP programs across the country.

In addition, the role of OFEC in the OEFP demonstrates how difficult it is to maintain collaborative governance models over time. During the initial, reactionary phase of the program, the major provincial farm organizations banded together against intrusive regulation. In Phase 2, for reasons well-removed from the program itself (e.g., the Walkerton Crisis) the regulatory threat that the OEFP was designed to mitigate became a reality. This led to a fragmentation of the unity of the farm organizations and the slow loss of a coherent industry-wide voice for agroecosystem issues. This loss has been compounded by the feeling that OFEC itself seems to have changed over time to become more of an advocacy body in response to regulation rather than one dedicated to raising the awareness of farm families and government of the environmental issues that pertain to agriculture.

In the implementation and outcome phases, the program continues to be highly successful in Ontario, and has reached approximately 70–75% of farm families. Challenges remain in reaching the remaining third of the target audience, while at the same time meeting the new expectations (particularly for the funding of action plan BMPs) that have been created by the program over the past decade. The growing frustration with the program due to oversubscription, coupled with the sense that the program is offering “less and less” [C—program delivery] poses a challenge to its sustainability. This study highlights the need for an adaptive governance approach that is reflective, not reactive. The major policy shifts over the 20 years of the EFP have allowed the program to continue, although at the expense of some of the key characteristics that made it so successful in the province. Opportunities to check-in and take stock of the program should be built into future iterations, particularly given the high rates of turnover in the agencies involved and the concurrent loss of institutional memory about the program. Given their historic distrust of government programs, every effort should be made to restore leadership to the farm community, while bearing in mind the changes in the sociopolitical context that have taken place over the past two decades.

Looking at the program over a 20-year period highlights some key findings related to the resilience of stewardship programs, generally. The principles and values that the stewardship program represents are seen to be as powerful and motivating (or demotivating) as the day-to-day operation of the program itself. The slow shift in farmers' perspectives from seeing the OEFP as a farmer-led program to a government-led one has the potential for long-term ramifications for this stewardship initiative, particularly as the level of funding seen during the APF years (Phase 2 of the program) and unlikely to reappear anytime soon. The OEFP has always been a multilevel, polycentric program supported by the farm community and the provincial and federal governments. The relative power over the program has changed

dramatically, forcing the realignment of the core relationships that support this program. The aforementioned shift in the local of control from farmers to the federal government to the provincial government has put a strain on the founding organizations, such as OFEC. That the program has survived these challenges and continues to be successful in the province is a testament to the political will and commitment of many of the partners to its success. Nonetheless, as personnel changes and institutional memory is lost some of this social capital is being lost. As Folke et al. (2005) highlight, in an adaptive governance situation understanding must be “continually updated and adjusted” (447). This study has identified this area as an opportunity for improvement, where the various actors could invest additional resources in “developing the capacity to learn effectively” from their experiences (447). This would include such adaptive policy measures as regular stakeholder meetings to reflect on the program’s past, present and future and revisit the program core principles (farmer-led, confidential, non-regulatory, and focused on education and awareness) with an eye to ensuring widespread and long-term support. Reinvestments in the placement of the OEFPP as an educational tool that does not depend on cost-sharing (but is enhanced by it) will continue to build social capital and shape social norms in both the farming and non-farming communities to the benefit of all Ontarians.

CONCLUSIONS

This study supports the current findings of the adaptive management literature. The adaptive governance of social-ecological systems frame elucidates some of the challenges of multilevel systems and polycentricity. Glasbergen’s (2011) Ladder of Participation highlights key features of the program that should be maintained as well as areas for improvement. The article provides empirical support for Folke et al.’s (2005) statement that:

the real challenge is dealing with systems that are not only cross-scale but also dynamic. (460)

Taking an adaptive governance of social-ecological systems approach to studying changes in the OEFPP program over the past two decades highlights different aspects of the program than have been covered by other studies. The focus on the OEFPP as a dynamic social-ecological system illustrates the need to take the history of the system in question into account and serves as a reminder of how changing social conditions can create a shifting baseline of social norms and policies.

Adaptive governance is possible when there are communal policy objectives that create win-win opportunities for all of the parties. Maintaining this win-win is an ongoing challenge. Changing government policy, particularly

at multiple scales, is a given. Resilient government-supported stewardship programs are those that are built on solid principles, supported by the target audience, but that are also flexible enough to adapt, modify and reflect on those principles over time.

NOTE

1. The Ontario Ministry of Agriculture underwent several renamings over the 20-year period. It began as the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA); later this changed to the Ontario Ministry of Agriculture and Food (OMAF). For simplicity, OMAF will be used as the acronym in this article to denote this Ministry.

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