

THE CHALLENGE OF RECONCILING WATER AND AGRICULTURAL POLICIES – THE ROLE OF PUBLIC HEARINGS

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Presented at
OCDE WORKSHOP ON AGRICULTURE AND WATER:
SUSTAINABILITY, MARKETS AND POLICIES
Adelaide (Australia), 14-18 November, 2005

Abstract

In recent years, the Québec government has introduced new measures that significantly reinforce frameworks for both water protection and agricultural activities. In late 2002, it adopted the Québec Water Policy, which undertakes to introduce a watershed-based management strategy for cleaning up watercourses and intensify agricultural clean-up efforts. Agricultural policies have also been undergoing important transformations in Québec over the past few years. The Regulation Respecting Agricultural Operations has reinforced controls over agricultural pollution while the policy directions for the sustainable development of hog farming, adopted in 2004, has led to the implementation of new measures and requirements favouring the integration of sustainable development principles in pig farming. These changes were legitimized by extensive public consultations conducted by a specialized office for public hearings on the environment, the Bureau d'audiences publiques sur l'environnement (BAPE). Through these consultations, BAPE provided advice and recommendations to guide government decision making with a view to sustainable development. It held comprehensive public hearings on water management in 1999–2000 and on sustainable development for hog farming in 2002–2003. These two consultation processes were the key events on which current reforms are based, and they have contributed to meeting the challenge of reconciling water and agricultural policies.

Keywords

Public hearings, Consultation process, Water protection, Agricultural pollution, Agricultural sustainable development, Environmental Policy

Introduction

Although water is often the resource most affected by farming activities, agricultural pollution frequently appears as the most difficult form to prevent and clean up. This is mainly due to the fact that it is non-point source pollution that involves many different farm operations using very diverse practices and spread over a large territory with varying biophysical characteristics. To counteract the environmental impacts of agriculture, governments are seeking to exercise greater control over agricultural activities. However, reducing agricultural water pollution remains a challenge to policymakers, with no clear pathway to success.

In Canada, jurisdiction over agriculture and water is shared between the federal and the provincial governments, but agricultural production and freshwater management and protection are primarily provincial responsibilities. The Québec government is therefore a very active player in both these fields. In recent years, it has made some significant advances in protecting water from agricultural pollution, notably as a result of extensive consultations on related issues. These processes are presented in the following sections as well as their outcomes.

The Water Management Hearings

A consultation process on freshwater...

Québec's renewable freshwater resources account for 3% of the world's total reserves. To preserve the abundance and quality of this resource, the Québec government launched an initiative in the late nineties to develop a water management policy based on principles of sustainable development. One of the key steps in this process was an extensive series of public hearings conducted in 1999–2000 by the *Commission sur la gestion de l'eau au Québec* (Québec water management commission), which was set up by the *Bureau d'audiences publiques sur l'environnement* (BAPE, or office for public hearings on the environment). A brief description of BAPE is presented in Box 1. All of Québec's administrative regions were visited twice by the Commission, first to provide the public with information on various water-related issues and, second to receive proposals from individuals and groups interested in water management and the protection of both public health and aquatic ecosystems. During the hearings, the Commission held a total of 143 public sessions, received 379 briefs and heard over a thousand citizens and stakeholders.

This process led to a comprehensive report by the Commission entitled *L'eau, ressource à protéger, à partager et à mettre en valeur* (Water, a resource to protect, share and develop) (BAPE, 2000). The report addressed strategic issues related to freshwater management (massive exports of freshwater, commercial use of groundwater and the privatizing of water services); presented a description of regional concerns and priorities regarding freshwater; and emphasized the importance of involving native people in developing Québec water policy. It also identified the various issues and objectives related to water and aquatic ecosystem management, as well as possible actions and measures that could be included in a water policy. As a general recommendation, the Commission stressed the importance of adopting an integrated water management approach at the watershed level, notably for the St. Lawrence River and its tributaries.

...which identifies the need for better control of agricultural pollution

One of the major concerns identified at the hearings was the control of agricultural pollution. The Commission concluded that most of Québec's efforts in this area to date have focused on manure storage facilities, a form of point source pollution, while not enough has been done to target non-point source pollution. The report indicates that "non-point source pollution may even pose a threat to what has been achieved through municipal and industrial clean-up efforts" (BAPE, 2000; p. 61, translation). Therefore, the Commission has advised the provincial government to completely review its strategy for agricultural clean-up, acknowledging that previous educational and regulatory measures alone were not sufficient.

According to the Commission, a new strategy for farm pollution control should include the following key elements:

- Eliminate inconsistencies between government agricultural and environmental policies
- Establish environmental cross-compliance measures in farm support programs
- Reinforce control and monitoring measures for farming operations
- Offer payment for environmental services provided by farmers
- Apply the polluter-payer principle through the use of economic tools
- Adopt proper management measures for watercourse buffer strips
- Encourage the adoption of best management practices

As we will see in the following sections, the BAPE Commission's report on Québec water management has set forth guiding principles for the development of provincial water policy and, in the specific case of agricultural activities, has played an important role in identifying the conditions and incentives necessary to bring stakeholders a step closer to adopting more appropriate measures for dealing with non-point source pollution.

Box 1. BAPE: a tool for participative democracy

Bureau d'audiences publiques sur l'environnement

The *Bureau d'audiences publiques sur l'environnement* (BAPE) was established in 1978 under the *Québec Environment Quality Act*. It is a quasi-judicial government organization dedicated to informing and consulting the public on questions related to the quality of the environment. BAPE reports to the Minister of Sustainable Development, Environment and Parks, who assign the organization's terms of reference. BAPE members are appointed by the government. As a tool for participative democracy, social convergence and decision making assistance, BAPE helps citizens influence the decision making process for projects that may have major repercussions on the environment.

BAPE may be asked to:

- Conduct environmental impact assessments and reviews involving public participation
- Conduct a public review of a specific environmental problem
- Hold public consultations on protected area projects within the context of the Natural Heritage Conservation Act

A mandate to hold inquiries and public hearings

The BAPE president sets up a commission and designates the BAPE member who will serve as commission chairperson. Commissioners have the status of investigators and, as a result, benefit from quasi-judicial powers allowing them, among other things, to subpoena documents for release to the public. Commissioners are empowered to take such action under the *Act respecting public inquiry commissions*. They must take an oath and must also abide by a code of ethics and professional conduct. In addition to holding inquiries, the commissioners help citizens understand the technical aspects associated with a project. Hearings take place in two parts. The aim of the first part is to inform the public and the commission about the project, whereas the aim of the second is to solicit public opinion. Any person may submit a brief or orally present their opinions and/or suggestions concerning a project, impact study or any other document related to the mandate of inquiries or hearing.

BAPE reports

Each BAPE commission drafts a report containing an analysis of the viewpoints expressed during the hearings and reports on the commission's findings and opinions. At the end of the commission's mandate, the BAPE report is submitted to the Minister of Sustainable Development, Environment and Parks, who then has 60 days to make it public. In light of the BAPE report and the environmental analysis prepared by his department, the minister makes his recommendation to the Cabinet, which is responsible for the final decision concerning the project.

Source: BAPE, 2005 and <http://www.bape.gouv.qc.ca/>

The Adoption of the *Regulation Respecting Agricultural Operations* (RRAO)

In June 2002, the Québec government adopted the *Regulation Respecting Agricultural Operations* (Éditeur officiel du Québec, 2002). The new regulation updated and simplified the existing regulation and reinforced pollution control measures for farming operations, notably by increasing the number of farm inspections. Besides requiring the farmer to have watertight manure storage facilities, it sought to address the non-point source pollution problem by striking a balance between soil carrying capacity for phosphorus and the quantity of fertilizing substances being spread. This provision took immediate effect for new facilities or herd increases, whereas existing farms were given until 2010 to fully comply. The regulation aims to ensure sound management of fertilizing substances by requiring each farm to prepare an agro-environmental fertilization plan, submit regular phosphorus balance reports, and comply with newly prescribed restrictions on the spreading of livestock waste (protective distances, use of low ramp equipment for liquid manure management, periods permitted, etc.).

Along with these measures, the new regulation introduced administrative requirements that imposed temporary limitations on the development of new hog farming operations. The measure was a response to growing controversy over hog farm expansion in rural Québec, where there are widespread concerns about odours and watercourse degradation resulting from overfertilization. The Québec government also felt that a provisional halt was justified by the new mandate it had given to BAPE, this time to conduct hearings on

the sustainable development of hog farming. The moratorium was seen as a way to create a more constructive working atmosphere for the new BAPE Commission and to foster stakeholder participation in the consultation process.

The Québec Water Policy

A policy framework...

Adopted in November 2002, the Québec Water Policy was the outcome of several years of research, consultation, recommendations and positions taken on the issues, directions and actions required to manage Québec's water resource. It was developed to provide a better framework for water management and guarantee the sustainability of the resource. The policy proposes a new approach to water governance based on grassroots participation and the democratization of information, as well as a consistent strategy of integrated water management involving close coordination among government departments, public agencies, and water-management stakeholders at the different levels of intervention (MENV, 2002).

Recognizing water as part of Québec's collective heritage, the policy sets forth measures and government commitments in five key areas:

- Implementation of watershed-based management to reform water governance
- Integrated management of the St. Lawrence River system, notably by granting this important watercourse a special status
- Protection of water quality and aquatic ecosystems
- Continued clean-up and improved management of water services
- Promotion of water-related recreational activities

Two of these areas have a more specific impact on the farming sector: implementation of watershed-based management and the intensification of agricultural clean-up efforts.

... affecting the farming sector

Implementation of watershed-based management—a territorial approach which defines the watershed as the territorial unit of intervention for water management—requires a concerted effort on the part of all water management stakeholders (municipalities, citizens, developers, interest groups, and government departments and organizations). The goal is to facilitate integration of the multiple interests, uses, concerns, and action mechanisms of the community. This approach strives to take a comprehensive view of natural phenomena and the impact of human activities on the watershed, in order to better understand and explain problems related to water quantity and quality and develop more effective policies, programs, and projects. To support implementation of this approach, the government of Québec has committed to: *i*) gradually introduce integrated watershed-based management; *ii*) provide financial and technical support for the establishment of 33 watershed-based organisations. And since agricultural activities may have important impacts on the water resource, the farming sector is therefore expected to play a significant role in achieving water quality standards in the watersheds.

The water policy also sets forth commitments to intensifying agricultural clean-up efforts complementary to the *Regulation Respecting Agricultural Operations* (RRAO). This regulation, as seen earlier, seeks to achieve balanced phosphorus levels in the soil by 2010 through the management and control of the spreading of animal waste. It also imposed a temporary moratorium on new pig farming operations. However, these measures alone were considered insufficient, which is why the Québec government has made further commitments to stepping up agricultural clean-up efforts. Under the Water Policy, for example, a sustainable agricultural development strategy has been developed to re-establish and maintain a balance between an economically viable and socially acceptable agricultural sector and quality rural environment preserved for the enjoyment of current and future generations.

This strategy is based on the coordination of actions addressing agro-environmental issues, and comprises the following measures:

- A government investment plan—“*Un environnement à valoriser*”—which focuses mainly on the implementation of sound farm practices
- Support for the establishment of wooded riparian corridors in agricultural areas
- Introduction of environmental cross-compliance measures within a range of financial assistance programs in the agricultural sector
- Reduction of the environmental impact of pesticides in agricultural areas by 2010
- Provision of technical and financial support to existing freshwater fish farming operations to reduce waste discharges into the environment

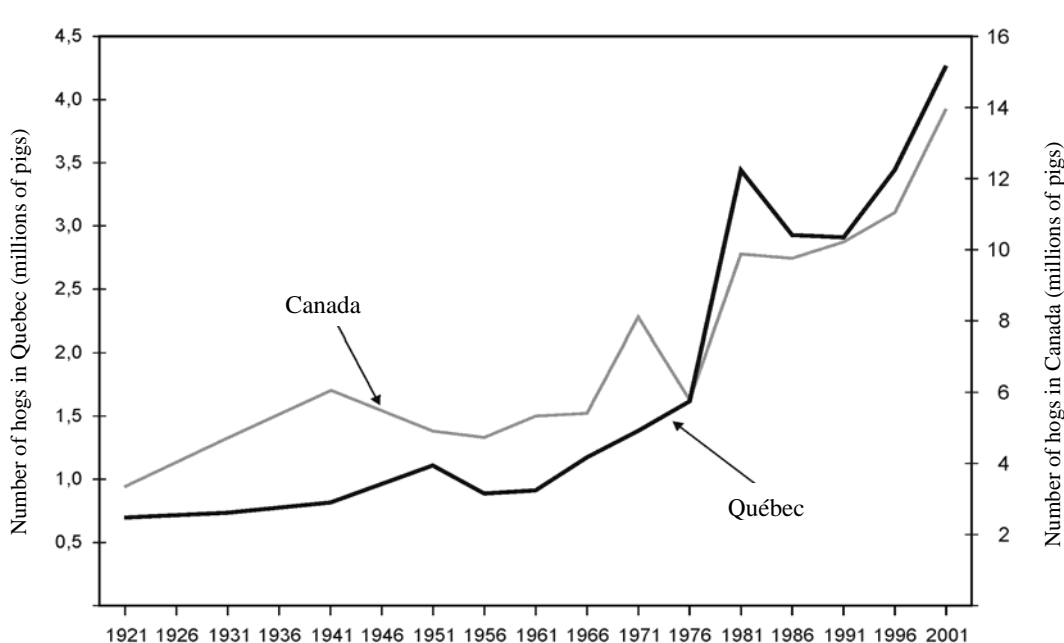
This agricultural strategy, together with the other measures comprising the RRAO, is expected to provide better control of point and non-point sources of agricultural pollution, improve the quality of water and aquatic ecosystems, increase the overall effectiveness of environmental measures for the agricultural sector, and enhance consistency in government policy through the introduction of cross-compliance.

The Hearings on the Sustainable Development of hog farming

Hog sector expansion: a cause for growing public concern

Over the last four decades, the hog industry has undergone tremendous growth in Québec, with the number of animals more than quadrupling since the early sixties (Figure 1). Even though Québec only accounts for 5% of total farmland in Canada, Québec farmers raised about 30% of all hogs produced in the country in 2002. Moreover, hog raising in the province is very much concentrated in a few geographic areas (three-quarters of all animals are raised in only three regions), a phenomenon similar to that observed in other parts of the world in recent decades (OECD, 2003a).

Figure 1. Evolution of Hog Raising in Québec and Canada



Source: Adapted from Statistics Canada, 1997 and 2002 (in BAPE, 2003)

The international market has been a major factor driving expansion, with half of the province's hog production now exported. However, this growth has also contributed to a significant increase in pressure on natural resources from farming activities and raised serious public concerns about the environmental impacts of hog farming, especially regarding water pollution and odour issues (MENV, 2003).

Bringing sustainability to hog farming: a new consultation becomes necessary

This is the context in which the Québec government imposed a temporary moratorium on further hog farm development and asked *BAPE* to conduct a new public consultation—this time on the sustainable development of hog farming. A new commission was set up with the following mandate:

- Evaluate the strengths and weaknesses of hog production models in Quebec
- Draft a framework for sustainable hog farming
- Propose one or more industry models capable of ensuring harmonious relationships and protecting the environment

The work of the new Commission began in the fall of 2002 with a number of theme conferences. Then, as with the water management hearings, two series of regional meetings were held, the first one to provide information and the second to obtain public input. In total, the Commission held 132 sessions, received 382 briefs, and heard over 9,100 citizens and nearly 260 experts. The commissioners also gathered information by traveling to other regions of Canada, the United States, and Europe with concentrated or expanding hog industries.

In the fall of 2003 the Commission presented its report on bringing sustainability to the hog farming entitled *L'inscription de la production porcine dans le développement durable* (BAPE, 2003). The document highlights the important role the three dimensions of sustainability play in ensuring the long-term viability of the pork industry. It contains numerous recommendations and concrete suggestions for policymakers on how to enhance the sustainability of hog farming and agriculture in general, including measures to help make hog farming socially acceptable, economically viable and compatible with the ecological equilibrium. Some of the key recommendations of this report are presented in Box 2.

In general, the Commission concludes that sustainable hog farming is possible in Québec. However, as an examination of the recommendations illustrates, integrating sustainable development principles into agricultural policy will require more than just a series of measures to foster the adoption of best management practices at the farm level. Therefore, the Commission concluded that it would be socially risky to lift the moratorium on new hog farming operations until the government has taken genuine and concrete actions toward this goal.

The Québec Government's Responses to the BAPE Report on the Sustainable Development of Hog Farming

Extending the restrictions on hog farm expansion

On the advice of the BAPE commission on the sustainable development of hog farming, the government decided to extend the temporary limitations on new hog operations. It considered that before any further development could occur, an action plan had to be implemented to ensure environmentally sustainable hog farming acceptable to rural communities. Through the *Regulation Respecting Agricultural Operations* (RRAO), the restrictions on new facilities were first extended until the end of 2004. This was followed by a partial lifting of limitations in watersheds where water quality met provincial standards for phosphorus concentration. Restrictions were maintained for an extra year in those watersheds said to be "degraded," i.e., where phosphorus concentrations exceeded norms. Now, in a recent proposal introduced to amend the RROA, the government plans to remove the last remaining limitations on new hog farm development in December 2005. The prolonged moratorium was necessary to allow the various government departments

involved to develop, adjust or reinforce certain policies to bring them in line with the new government *policy directions for the sustainable development of hog farming*.

Box 2. Summary of the Key Recommendations of the BAPE Report on the Sustainable Development of Hog Farming

<i>Toward socially acceptable hog farming</i>	
Through land use planning	<ul style="list-style-type: none"> • Adjust the legal framework governing land use planning and increase involvement by local authorities in planning farm and non-farm land uses • Review odour-related parameters for distance restrictions imposed on hog operations • Request odour mitigation measures for expanding hog farms unable to comply with distance restrictions • Allow production zoning and regional quotas for hog operations • Provide better access to information on hog operations and manure spreading within the region
Through participation and involvement of rural stakeholders	<ul style="list-style-type: none"> • Establish an environmental and social review process for all hog farm projects applying for certificates of authorization • Limit farmer immunity against liability (dust, noise, odour) to “normal” farm practices • Improve public access to information as well as the quality of information
Through health safety	<ul style="list-style-type: none"> • Increase public health research on risks associated with hog farming • Provide transparent information on health risks • Outlaw meat and bone meal in feed and the use antibiotics as growth factors
<i>Toward economically viable hog farming</i>	
	<ul style="list-style-type: none"> • Provide financial support to farmers for the implementation of new environmental standards • Review the current farm income stabilization insurance (FISI) program for the hog sector • Maintain the current collective marketing system • Allow provincial pig sector growth at same pace as the world market
<i>Toward hog farming compatible with ecological equilibrium</i>	
Through manure management	<ul style="list-style-type: none"> • Improve enforcement of environmental regulations on farms • Reinforce requirements and controls for manure spreading • Require land ownership for new hog farm development or expansion in all regions with a phosphorus surplus • Among farms with a phosphorus surplus, provide financial support only to those that went into a surplus situation as a result of changing regulatory requirements
Through ecosystem protection	<ul style="list-style-type: none"> • Reinforce protection control measures and provide information on spreading near wells • Intensify surface water quality monitoring in agricultural zones • Increase extension efforts for farmers on the importance of aquatic ecosystem protection • Provide adequate protection to riparian strips along watercourses and increase erosion control measures • Provide proper financial support to farmers to encourage adoption of good management practices not comprised in regulation standards • Allow municipal jurisdictions to control forest clearing • Rapidly implement environmental cross-compliance measures • Develop environmental, social and regulation compliance indicators for farming
Through watershed management	<ul style="list-style-type: none"> • Watershed management of farming activities is essential to ensure respect of watershed carrying capacity, establish land use priorities, achieve water quality standards and appropriately manage manure surplus problems

Source: BAPE, 2003

Policy directions for the sustainable development of hog farming

In the spring of 2004, the government identified seven key components for an action plan to end the moratorium on hog production (MENV *et al.*, 2004):

- Protect the environment with a commitment not to exceed watershed carrying capacity and to intensify farm controls as per the RROA
- Progressively introduce environmental cross-compliance, starting with certain RROA provisions for the pig sector in 2004
- Modify the legal framework governing land use planning to allow counties to impose a regional quota for hog operations and request odour mitigation measures for new operations
- Implement a local consultation process for all hog farm projects applying for a certificate of authorization
- Provide financial aid to farmers to assist with the implementation of buffer strips and the adoption of good management practices that reduce non-point source pollution and odours
- Support research and development, especially in liquid manure treatment technology and agri-environmental indicators
- Improve monitoring of health risks associated with hog farming and examine options for banning the use of meat and bone meal in feed as well as systematic use of antibiotics as growth factors

All of these commitments are directly linked to the BAPE commission's recommendations on the sustainable development of hog farming. Some of the key measures to implement the above actions were reconfirmed or more precisely defined by the Québec government in March 2005 and are briefly presented below (Gouvernement du Québec, 2005).

Respect for watershed carrying capacity

In addition to remaining restrictions on pig farm development, two amendments to the RRAO were adopted in December 2004 to take into account watershed carrying capacity (Éditeur officiel du Québec, 2004). First, in degraded river basins (i.e., phosphorus concentration above 0.03 mg/l at the river mouth), the regulation now prohibits any further increase of cropland acreage until water quality standards can be met. This measure takes into consideration the importance of limiting forest clearing and maintaining sufficient forest cover to preserve water quality and uses, especially in watersheds where there is intensive farming. The second amendment is specific to new hog operations. It stipulates any farmer wishing to set up a new hog farm in a degraded watershed must own 100% of the cropland required for spreading all new manure as set out in their nutrient management plan. In non-degraded watersheds, the land ownership requirement for new hog farms is set at 50% of the cropland needed for manure spreading.

Implementation of environmental cross-compliance

In 2004, the Québec government passed the first Canadian legislation on environmental cross-compliance in agriculture. The following year, *Financière agricole*, Québec's agricultural financing agency, introduced its first cross-compliance measure (FADQ, 2004). It makes the phosphorus balance report required under the RROA since 2003, a condition of eligibility for agency programs. Moreover, if a farm cannot satisfy RROA acreage spreading requirements, it must draw up, with the assistance of its agricultural adviser, an agri-environmental support plan (*Plan d'accompagnement en agroenvironnement*), the provincial equivalent of the federal environmental farm plan. This plan commits the farmer to implementing practices that will help meet the phosphorus regulation requirements. Failure to respect these conditions may reduce or eliminate the financial support that the farm is entitled to from the financing agency. In May 2005, the requirements for the phosphorus balance report also became eligibility criteria for the Québec Department of Agriculture property tax refund program (MAPAQ, 2005). These measures were the first to be introduced as part of plans to progressively make provincial financial support programs conditional to compliance with environmental regulations.

Modification of the legal framework for land use planning and development

The adoption of Bill 54 in late 2004 brought some significant changes to land use planning legislation. This modification concerns three key measures. First, a local public information and consultation process is now compulsory before any new hog farm applying for a certificate of authorization can be approved. A guide explains the public consultation process for new hog farm projects (MAMR, 2005a). Subsequent to local consultations, the second measure allows municipal authorities to impose certain mitigation requirements to help foster social acceptance of hog farm projects (roofing on manure storage tanks, use of windbreaks to limit odors, location of hog barns, etc.) before issuing a construction permit. Third, regional counties and municipalities may also impose a quota on the total number of hog farms allowed in its designated agricultural zones. On top of these measures, municipalities can also impose specific restrictions for protecting wooded areas, buffer strips and sensitive ecosystems, and they may identify up to twelve days when any manure spreading is forbidden (MAMR, 2005b).

Agri-environmental support for farmers

The *Prime-Vert* program offers agri-environmental payments to farmers, notably to help meet the regulatory requirements. The program provides financial assistance for the construction of liquid manure storage structures, the purchase of odour-reduction equipment (low ramp manure spreaders, roofing for manure storage structures, etc.), agri-environmental advisory services as well as the development of liquid manure treatment technology. In more recent years the program has begun to target non-point source pollution by providing financial aid to encourage specific management practices such as soil conservation, windbreaks, winter cover crops and the withdrawal of animals from watercourses (MAPAQ, 2004). A portion of the program funding is provided by the federal government through its strategic agricultural framework. This framework has also led to the implementation of an agri-environmental support plan at the farm level in partnership with the provincial department of agriculture (*Plan d'accompagnement en agroenvironnement*). This plan, which aims to help Québec farmers meet RROA regulatory requirements and improve their agri-environmental practices, is based upon a three-step on-farm initiative comprising a diagnosis, an action plan and implementation of best practices, all under the advice of an agrologist.

Further developments to watch for in the future

Review of the current Farm Income Stabilization Insurance (FISI) program

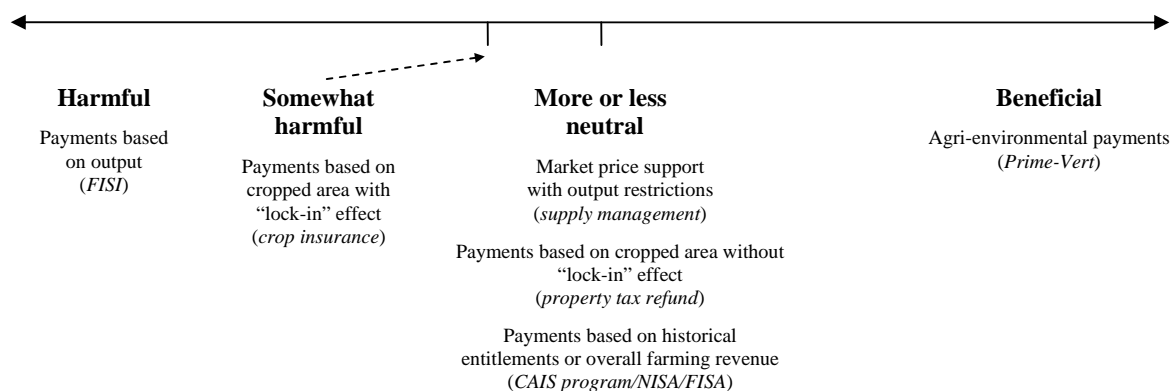
One of the key issues identified by the BAPE commission on the sustainable development of hog farming relates to the Farm Income Stabilization Insurance (FISI) program. Indeed, the Commission report calls for a complete overhaul of the program based on the following recommendations:

- Replace the current FISI program for hog producers with a general farming income protection plan that puts a ceiling on the maximum net income protected and applies to all farmers, regardless of output, type of commodity, or cost of production
- Target all agricultural income support programs to family or small farms, i.e., farms worked by no more than four people
- Make agricultural income support programs available to individuals only, even for people who exercise farming activities through the intermediary of a corporate entity.

(BAPE, 2003; p. 154, Recommendations 25, 26 & 27)

To fully appreciate the significance and scope of these recommendations, let us take a closer look at the FISI program from a sustainable development perspective, especially its impact on the environment and social equity. Our assessment of Québec farm support measures (Boutin, 2005) draws on recent OECD works and findings on environmentally harmful subsidies (OECD, 2003b; Unisféra, 2003; Portugal, 2002), to evaluate their potential role in fostering environmentally harmful practices. The classification scale developed to rate these support programs according to environmental impact is shown in Figure 2.

Figure 2. Classification of farm support measures available in Québec according to their environmental impact



Source: Boutin, 2005

As Figure 2 illustrates, the FISI program is the Québec support measure considered most harmful for the environment. It encourages overproduction by linking support payments to production levels and also provokes a lock-in effect that leads to specialization and inadequate crop rotation. In the past, Québec's auditor general (1996) has also criticized the fact that the FISI program is entirely based on models that maximize production and does not include any environmental criteria.

The pervasiveness of this type of support program makes it harder and more expensive to achieve environmental objectives and is in contradiction with agri-environmental measures. Conversely, environmental pressures would be eased if support were accompanied by restrictions on production or, as recommended by the BAPE Commission, were decoupled from production (Portugal, 2002).

From a social viewpoint, an examination of the distribution of the financial aid provided to hog feedlots through the FISI program also illustrates the inequities inherent to the distribution of this form of farm support. Indeed, the FISI programs, which provide support based on output, tend to benefit larger operations and to introduce inequities into the distribution of farm assistance (Boutin, 2005). According to other OECD (2002) studies on farm household income, generic support measures, like payments based on output levels, lead to inequalities in the distribution of farm support. In this area, too, the decoupling of aid measures and the targeting of payments specifically on the basis of farm revenue is viewed as one way to alleviate the problem and to guarantee greater equity between agricultural beneficiaries. Again, these conclusions fit with the recommendations of the BAPE Commission regarding the FISI program.

These observations raise several points worth considering if we are to introduce a sustainable development approach to agricultural policy. Indeed, although the Canadian Agricultural Income Stabilization (CAIS) program—a whole-farm income support—became the front-line program in Québec in 2003, the FISI program is still the predominant means of providing direct financial support to Québec farmers. However, the transition to sustainability cannot be readily achieved without undertaking a genuine review of existing farm support measures developed under previous "productivist" policies. Therefore a reform of the FISI program, as suggested by the BAPE Commission, would contribute greatly to enhancing the productivity of agri-environmental investments and make farm support measures more effective vehicles for meeting the goal of sustainability. Such reform could be expected as part of a second set of measures to be elaborated in the future.

The introduction of new environmental cross-compliance measures

In its policy directions for the sustainable development of hog production, the Québec government has defined environmental cross-compliance as: *i*) an economic instrument to make government financial support conditional on the respect of environmental criteria in order to influence farmers' practices; and *ii*) a public administration tool to ensure consistency in government policies, sound management of government spending, and compliance with environmental regulations. Moreover, the government envisages the progressive introduction of environmental cross-compliance and the implementation, by 2010, of a comprehensive cross-compliance policy that makes all government farm support conditional on full compliance with all environmental legislation pertaining to the agricultural sector (Provençal, 2005). As we have seen, the first cross-compliance measures implemented had to do with the phosphorus balance report, an RROA requirement. But other cross-compliance mechanisms can be expected for farm support programs in the years ahead. These measures are a necessary step toward restoring public confidence in the capacity of the farming sector to produce without damaging the environment.

Gradually introduction of integrated watershed-based management

Several watershed-based organisations have been established to implement this territorial approach, which requires extensive cooperation on the part of all water management stakeholders. Under this approach, objectives identified in the watershed management plan (*Plan directeur de l'eau*) must be taken into account before decisions affecting land use or water resources are taken. For example, regional agricultural planning would have to factor in targets for reducing phosphorus inputs from diffuse sources to ensure that the carrying capacity of the territory is not exceeded or threatened by new development projects. Implementation of sustainable watershed-based management will provide systematic protection of water bodies, wetlands and ecosystems; improve the health of watercourses, lakes and associated ecosystems; and progressively restore, or preserve, uses like swimming, fishing and other recreational activities.

Conclusion: A Consultation Process to Help Build Solutions

As this review of current Québec water and agricultural policies has shown, provincial government interventions have evolved significantly in recent years. Several measures have considerably reinforced frameworks for water resource protection, accelerated clean-up efforts and fostered integration of the three dimensions of sustainability into agricultural development planning. The two public consultations led by BAPE—the first on water management, the second on sustainable hog farming—laid the groundwork for these ongoing policy transformations. Indeed, the two processes have been fundamental to fostering a comprehensive shared vision among stakeholders and to building consensus around solutions.

While the hearings on water management have clearly illustrated the need to better control agricultural pollution, the hearings on hog farming have fostered public reflection and debate and helped identify ways to steer hog farming—and agriculture in general—on a course toward sustainability. The two reports drafted by the respective commissions contained numerous concrete suggestions for improving water management practices and integrating sustainable development principles into farming activities. Many of the recommendations have led to the implementation of new government measures and initiatives that are helping to eliminate inconsistencies between water protection measures and government agricultural support programs. An approach for participative democracy as the one used by BAPE has been a very efficient way in making further progress to meet the challenge of reconciling water and agricultural policies.

The adoption of the Québec Water Policy in 2002, as well as the important changes that are underway in agricultural policies, were legitimized by the extensive public consultations conducted by BAPE. More than a quarter century after its foundation—and numerous studies and inquiries later—this agency has become a widely respected and highly trusted provincial institution with a clear vision for:

“a Québec where the citizens of all regions are better informed about environmental questions and major projects submitted for public consultation. Citizens know that they have the possibility of being consulted by an independent and impartial organization to ensure that their concerns and opinions are taken into consideration when the government makes its decision.”
(BAPE, 2005)

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