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# **Formative Evaluation of the Building Public Confidence in Pesticide Regulation and Improving Access to Pest Management Products Horizontal Initiative (BPC Initiative)**

## **Final Report**

Presented to

Health Canada  
Departmental Audit and Evaluation Committee

March 8, 2007

Canada<sup>11</sup>



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Formative Evaluation of the Horizontal Initiative:  
*Building Public Confidence in Pesticide Regulation and Improving Access to  
Pest Management Products (BPC)*

**Management Action Plan**

We accept the formative evaluation of the BPC initiative as factually correct and agree on the following actions, as the appropriate government response to the recommendations of KPMG and Associates.

.....  
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<b>Recommendations (p.78-81 of evaluation report)</b>	<b>Management Action Items</b>	<b>Contact person, office of primary interest</b>	<b>Completion Date</b>
<p><b>A. Adopt a revised logic model for the Initiative.</b></p> <p>We recommend that the participating departments and agencies adopt a revised logic model that recognizes the interdependencies between the research and monitoring, and pest management programs within the Initiative, and more accurately reflects the range of outcomes that can realistically be achieved by the Initiative, using the model presented in Exhibit VII-1 as a starting point.</p> <p>The revised model should be designed to reflect more accurately the core focus of the BPC Initiative strategy and the design of each of its programs. In doing so, it should address the weaknesses of the current model that were identified as part of the analysis for the formative evaluation:</p> <ul style="list-style-type: none"> <li>• weak causal linkages between program outcomes and the level of public confidence.</li> <li>• interdependencies between the various groupings of programs are not recognized.</li> <li>• improved competitive parity of the agri-food and forestry sectors rather than increased competitiveness.</li> </ul>	<p>Partners will adopt a revised logic model with:</p> <ul style="list-style-type: none"> <li>- outcomes that can realistically be achieved by the Initiative;</li> <li>- outcomes that remain true to original purposes of the initiative;</li> <li>- visible linkage of interdependent elements of the initiative.</li> </ul> <p>PMRA will coordinate revising the current logic model using experience gained since 2002 and Exhibit VII-1. It will be part of a revised Results-based Management and Accountability Framework (RMAF), to be approved by all partners.</p>	<p>Trish MacQuarrie Director ASRAD, Health Canada PMRA</p>	<p>approval of revised RMAF by December 15, 2007</p>

Recommendations (p.78-81 of evaluation report)	Management Action Items	Contact person, office of primary interest	Completion Date
<p><b>B.</b> Finalize the performance measurement framework and collect outcome data.</p> <p>We recommend that the departments and agencies participating in the BPC Initiative develop a single performance measurement framework for the Initiative that identifies and defines a concise set of performance measures for the elements of the revised logic model, particularly outcome measures, and ensure that data collection and performance monitoring activities are generating the required data.</p> <p>This framework should build on the experiences with performance reporting to date and maintain a core focus on defining and measuring the 'success' of the initiative. Without attention to the development of a more complete performance measurement system now, and collection of the required data, it will be difficult to provide reliable information for the summative evaluation and decisions regarding the future of the Initiative, post 2007/08.</p>	<p>Partners will adopt a performance measurement framework which:</p> <ul style="list-style-type: none"> <li>- identifies and defines a concise set of measures for elements of the revised logic model;</li> <li>- replaces current performance measurement strategies of AAFC-PMRA JMC and 5NR WG</li> <li>- is integrated with the performance measurement strategies of partner departments/agencies;</li> <li>- shows responsibility for data collection and reporting;</li> <li>- focuses on BPC outcomes and generating the data required for the summative evaluation.</li> </ul> <p>PMRA will coordinate development of the performance measurement framework, in tandem with the revised logic model. It will be part of a revised RMAF to be approved by all partners.</p>	<p>Trish MacQuarrie, Director ASRAD, Health Canada PMRA</p>	<p>approval of revised RMAF by December 15, 2007</p>

Recommendations (p.78-81 of evaluation report)	Management Action Items	Contact person, office of primary interest	Completion Date
<p><b>C. Strengthen the integration of program activities</b></p> <p>(i) We recommend that the 5NR Working Group develop a single integrated work plan for the research and monitoring programs for the remaining years of the BPC Initiative. The process for developing this plan should focus on developing a collective response to PMRA's research priorities, ensuring that these priorities also reflect the capacity of the research groups to meet these needs and the time frame required to obtain useful knowledge. Research needs of the joint PMRA-AAFC Pesticide Risk Reduction Program should also be integrated into this planning, as appropriate.</p> <p>(ii) In order to strengthen the overall integration and coordination of the initiative, we recommend that all six participating departments and agencies undertake joint planning for both the summative evaluation and development of a strategy for the direction and scope of the BPC Initiative beyond the current funding agreement. This exercise will need to consider where horizontal approaches to strengthening and supporting the pesticide regulatory system are most needed and to determine the best means of funding and performing such activities. Consultation with, and input from, stakeholders regarding the development of a future strategy should be incorporated into this review process, and complement stakeholder input to the summative evaluation.</p>	<p>(i) Since 2002, the 5NR WG has progressed to working in a more integrative fashion and will develop a work plan for 2007 - 2008 that reflects this reality.</p> <p>(ii) PMRA will consult or engage with all participating departments and agencies in the planning of the summative evaluation and development of a strategy for supporting the pesticide regulatory system beyond the current funding agreement.</p>	<p>(i) co-chairs of the 5NR WG, currently:</p> <p>Karen Lloyd Director EAD Health Canada PMRA</p> <p>Tim MacDonald Pest Management Centre, AAFC</p> <p>(ii) Trish MacQuarrie Director ASRAD Health Canada PMRA</p>	<p>April 2007</p> <p>April 2008</p>



Recommendations (p.78-81 of evaluation report)	Management Action Items	Contact person, office of primary interest	Completion Date
<p><b>D. Strengthen the accountability of the 5NR WG.</b></p> <p>We recommend that a committee of DGs/ADMs from each of the participating departments and agencies be struck to develop the future strategy for the conduct of cross-government pesticide research and monitoring. The roles of this committee should include:</p> <ul style="list-style-type: none"> <li>• review and approval of the integrated 5NR work plan and the fit of that work plan within the priorities of the 5NR departments and agencies' own programs;</li> <li>• review and approval of proposed performance measures for the research and monitoring programs;</li> <li>• review of results achieved and effectiveness of the horizontal approach taken within the BPC Initiative;</li> <li>• consideration of the inter-dependencies with other BPC Initiative programs;</li> <li>• development of a vision and strategy for the future operation of the pesticide research and monitoring initiative post 2007/08;</li> <li>• participation in the oversight of the planning and conduct of the summative evaluation.</li> </ul>	<p>A committee of DGs from each of the participating departments and agencies will be established to guide the future strategy for cross-government pest management issues, which will include not only research and monitoring but other science and technology programs.</p> <p>5NR WG Co-chairs will propose Terms of Reference or a Memorandum of Understanding, for approval by all participating departments and agencies. The PMRA co-chair of the 5NR WG would be the chair of this new DG committee.</p> <p>The amended RMAF will identify this governance committee.</p>	<p>co-chairs of the 5NR WG, currently:</p> <p>Karen Lloyd Director EAD Health Canada PMRA</p> <p>Tim MacDonald Pest Management Centre, AAFC</p>	<p>approval of revised RMAF by December 15, 2007</p>
<p><b>E. Implement a targeted communications strategy.</b></p> <p>We recommend that a targeted communications strategy be developed and implemented to 'brand' the BPC Initiative. This branding should develop recognition and understanding among both external stakeholders and BPC managers and staff of the overall design, objectives, activities and benefits of the Initiative. The strategy should be integrated with broader communication strategies of partners in the Initiative, particularly those of PMRA and AAFC, that are intended to increase stakeholder and public understanding of the pesticide regulatory system.</p>	<p>PMRA and AAFC will include the BPC Initiative as a strategic consideration in their strategic communications frameworks.</p>	<p>Edith Lachapelle, Manager, Strategic Communications Health Canada PMRA</p> <p>Tim MacDonald Pest Management Centre, AAFC</p>	<p>December 15, 2007</p>





*Final Report:*

**Formative Evaluation of the  
Building Public Confidence  
in Pesticide Regulation and  
Improving Access to Pest  
Management Products  
Horizontal Initiative**

*Prepared for:*

**BPC Evaluation Working  
Group**

Ottawa, November 21, 2006

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# Executive Summary

## A. Nature of the BPC Initiative

The *Building Public Confidence in Pesticide Regulation and Improving Access to Pest Management Products* (“BPC Initiative”) was approved by Treasury Board in 2002. The strategy for the Initiative calls for public and stakeholder confidence in the pesticide regulatory system through actions in three areas:

- (a) Involving, consulting and informing public and stakeholders on pesticide registrations.
- (b) Studying and monitoring pesticides.
- (c) Developing and implementing pest management strategies.

The participating departments and agencies are: Health Canada’s Pest Management Regulatory Agency (PMRA), Canadian Food Inspection Agency (CFIA), Fisheries and Oceans Canada (DFO), Natural Resources Canada (NRCan), Environment Canada, and Agriculture and Agri-food Canada (AAFC). Total funding for the six-year term of the Initiative—from 2002-03 to 2007-08—is \$185 million. Thirteen programs are involved, grouped under three governance structures:

Program Groupings/Programs	Governance Mechanisms/ Dept’s/Agencies	Funding (\$m.) (02/03 - 07/08)
<b>Research and Monitoring Programs:</b>		
<ul style="list-style-type: none"> <li>• Linking pesticide regulation and research.</li> </ul>	5 NR WG <sup>1</sup> PMRA	\$3.4
<ul style="list-style-type: none"> <li>• Enhanced monitoring and enforcement of pesticide residue limits in foods and feed.</li> </ul>	CFIA	\$2.7
<ul style="list-style-type: none"> <li>• Enhanced monitoring and enforcement of pesticide residues in fertilizers and pesticide guarantee verification in fertilizer/pesticide combinations.</li> </ul>	CFIA	\$1.9
<ul style="list-style-type: none"> <li>• Monitor and research the presence and effects of pesticides in marine and freshwater ecosystems.</li> </ul>	DFO	\$6.9
<ul style="list-style-type: none"> <li>• Research and monitor pesticides in the forest environment.</li> </ul>	NRCan	\$3.0
<ul style="list-style-type: none"> <li>• Monitor and research (the) presence and effects of pesticides in the environment.</li> </ul>	Env. Can.	\$8.0
<b>Pesticide Risk Reduction and Minor Use Programs:</b>		
<ul style="list-style-type: none"> <li>• Developing and implementing commodity specific risk reduction strategies.</li> </ul>	JMC <sup>2</sup> PMRA	\$46.0
	AAFC	\$58.5
<ul style="list-style-type: none"> <li>• Developing and facilitating use of reduced risk pesticides and biological pesticides for forest pest management.</li> </ul>	NRCan	\$3.6

Program Groupings/Programs	Governance Mechanisms/ Dept's/Agencies	Funding (\$m.) (02/03 - 07/08)
<p><b><i>Programs to Strengthen the Transparency of Pesticide Regulation Under the new Pest Control Products Act:</i></b></p> <ul style="list-style-type: none"> <li>• Meeting Workplace Hazardous Material Information System (WHMIS) objectives for pesticides.</li> <li>• Updating processes to regulate pesticide formulants.</li> <li>• Tracking adverse effects of pesticides.</li> <li>• Accelerated and priority re-evaluation of older pesticides.</li> <li>• Consultation on and reconsideration of registration decisions, access to regulatory information, sharing confidential information.</li> </ul>	<p><b>PMRA AMC<sup>3</sup></b></p> <p>PMRA</p> <p>PMRA</p> <p>PMRA</p> <p>PMRA</p> <p>PMRA</p>	<p>\$4.5</p> <p>\$9.0</p> <p>\$6.0</p> <p>\$13.8</p> <p>\$18.4</p>

1. Interdepartmental Working Group on Pesticides and Pest Management (Commonly known as the 5 Natural Resource (departments) Working Group).
2. Joint Management Committee
3. Agency Management Committee.

The funding allocated to the BPC Initiative also served to enable implementation of the new *Pest Control Products Act (PCP Act)*. The new *PCP Act* received Royal Assent in December, 2002. The new Act and regulations are intended to strengthen safeguards against human health and environment risks posed by pesticides based on modern risk management concepts, an increased level of informed public participation, improved post-registration control, and a clear foundation for reducing pesticide risks.

## B. Objectives of the formative evaluation

This study is one of two external assessments of the Initiative required by Treasury Board, the other being a summative evaluation to be conducted prior to the end of the six-year term. Results from the formative evaluation will be used to inform senior management of the participating departments and agencies regarding progress to date, needs for any improvements and to define the basis for the ensuing summative evaluation.

The objectives set for this formative evaluation were to:

1. *Assess implementation of planned activities and outputs of BPC since inception in 2002.*
2. *Assess the governance and performance management of the initiative relative to expectations of participating agencies/departments and to best practices of comparable initiatives in other jurisdictions.*
3. *Assess available evidence of progress towards planned outcomes and whether the initiative, as designed, is the appropriate mechanism for achieving planned outcomes.*
4. *Identify successful practices in the delivery, governance and performance management of the BPC, and adjustments that would improve progress toward planned outcomes.*

5. *Identify issues, questions, methods of inquiry, information sources and challenges for consideration in developing the evaluation framework for a summative evaluation in 2007.*

The analysis and reporting were structured to provide insights relating to the delivery, governance and performance management, and design of the Initiative. Sections D through F, below, summarize our findings in relation to the first three of these objectives, and, in doing so, highlight areas of successful practice (objective 4). Section G summarizes our recommended adjustments to improve progress toward the planned outcomes, and the final section presents the key features of the proposed framework for the summative evaluation.

### **C. Evaluation methodology**

The approach to the evaluation design looked at the experience in implementing the Initiative and establishing supporting planning, management and reporting processes, reviewed the available performance data, and attempted to identify lessons learned from similar initiatives in other jurisdictions and from analogous horizontal initiatives within the Government of Canada. Three principal lines of enquiry were used:

- Review of documentation related to the development and implementation of the BPC Initiative.
- Literature search for information on approaches to building public confidence and improving access to minor use and reduced risk pesticides in other jurisdictions, and the identification of lessons from other federal horizontal initiatives.
- Key informant interviewing program with managers of the BPC Initiative and a selective cross-section of key external stakeholders. This was a convenience sample, composed of people who were knowledgeable about one or more of the BPC programs or, in the case of external stakeholders, aspects of the regulatory systems for pesticides.

### **D. Implementation of planned activities and outputs**

The thirteen programs that make up the BPC Initiative fall into three broad categories:

- Programs intended to strengthen the operation and transparency of the regulatory system under the new *PCP Act* (4 PMRA programs).
- Programs focused on minor use and risk reduction strategies (2 programs).
- Programs primarily involved in research and monitoring (7 programs).

Programs concerned with the transparency of pesticide regulatory decision-making are quite distinct from the remaining programs and operate as integral elements in the operations of the PMRA with minimal involvement from the other participants in the Initiative. Progress on these programs has been slower due to delays in the new *PCP Act* coming into force. Once these programs are implemented, the question as to whether there are benefits to be gained by maintaining some degree of integration into the BPC



Initiative versus incorporation into the PMRA's A-base and operations will need to be addressed.

The departments and agencies involved in the research and monitoring programs — PMRA, Environment Canada, DFO, NRCan and CFIA, as well as work by AAFC's Research Branch and Health Canada linked to the goals of the BPC Initiative — have a high degree of horizontality, in that they involve mutually complementary and inter-dependent work planning by six participating departments and agencies. These programs have progressed to the point where their research and monitoring projects are generating information and advice that is being used to strengthen the PMRA's approaches to the re-evaluation of older products.

Programs concerned with the development and implementation of commodity-based risk reduction strategies — involving the PMRA, AAFC and NRCan — have made significant progress, and have a high degree of cooperation and integration in their governance structure and work planning. An increasing number of submissions to register new minor uses are in preparation or under evaluation by the PMRA. In parallel, priorities for commodity-specific risk reduction strategies have been determined, based on input from stakeholders, and an initial set of such strategies have advanced to the point where adoption by interested growers is being promoted and supported. These programs also account for the majority of stakeholder consultation activities conducted to date, involving grower groups and users, the pesticide industry, other levels of government and a number of public interest groups.

Few of the BPC managers interviewed saw their program area as part of an inter-departmental horizontal initiative; in fact, few knew of the BPC Initiative by name without prompting. Virtually no external stakeholders are aware of the existence of the overall BPC Initiative, but most were aware of specific program components that their organizations interact with. This lack of awareness would appear to be a function of the lack of "branding" of the BPC Initiative and communication of the cross-government approach to strengthening pesticide regulation and transparency as a foundation for specific program elements.

## **E. Governance and performance management**

PMRA is the lead Agency for the BPC Initiative, responsible for coordinating the preparation of annual reports on activities, outputs and outcomes. Governance and direction for the BPC Initiative is provided by: the 5NR Working Group for the research and monitoring programs, a Joint Management Committee for the AAFC and PMRA commodity risk reduction program, and the PMRA Agency Management Committee for the programs to increase regulatory transparency and public participation. Key informants, particularly program managers from the participating departments and agencies, supported this structure over the use of a single overriding governance structure due to the disparate roles and areas of focus within the Initiative.

This governance structure is characterized by:

- Each of the thirteen BPC programs have clear objectives and expected outcomes that clearly align with the target outcomes for each of the three areas of focus.

- Implementation of the thirteen BPC programs has proceeded largely as anticipated, albeit with some slippage in the coming into force of the new *PCP Act* and related transparency programs, and there have been no requirements to make changes in response to changing needs or unanticipated gaps.
- Cooperative and coordinated management and planning processes are in place for the AAFC-PMRA commodity risk reduction program (and the NRCan program element by extension). Coordinated management and planning for the research and monitoring programs is evolving as the participating departments develop their understanding of each others' programs and capabilities, and see how information and advice is used by the PMRA. Planning for the transparency programs is driven by the PMRA planning processes and operations, and these programs are integrated into the Agency without strong links to the other BPC programs.
- The 5NR Working Group has functioned effectively at an operational level, with each of the partners focusing on the design and implementation of their respective research projects and, more recently, sharing of research results. We believe that the need for more strategic management role will increase as the current research and monitoring projects are finalized and findings are applied by the PMRA, and questions arise regarding future research priorities. Input and guidance from a DG or ADM-level committee would likely be of benefit in developing consensus around these questions.

The most pressing area of weakness in the delivery of the Initiative is that of performance reporting on the achievement of immediate and intermediate outcomes, where the participating departments and agencies are still grappling with how best to measure and report on progress. The ability of departments and agencies to collect outcome information for their programs is complicated by the long time frames before many of the BPC programs can demonstrate results. However, the Initiative is now at a point where decisions regarding the selection of outcome measures are needed, and actions taken to ensure the required data is available for longer-term planning for the Initiative and input to the summative evaluation.

## **F. Progress towards planned outcomes**

The extent to which the design has led to the achievement of immediate outcomes (which is all that can realistically be considered given that the BPC Initiative was only implemented in 2002/03) is a question that covers a substantial set of activities. Our findings from the key informant interviews and review of documentation suggest that significant progress has been made in the achievement of the following immediate outcomes contained in the current logic model:

- Increased knowledge by the PMRA about pesticides and alternatives.
- Current and prospective registration of reduced risk and minor use pesticides.
- Removal of pesticides and uses of higher risk.
- Monitoring of residues on food and fertilizer-pesticide combinations, and tracking of the incidence of residues in food products typically consumed by young Canadians.

- Development and prospective access to safer pest management practices and products.

Progress against the two remaining immediate outcomes—increased public participation and a better informed public and stakeholders—is less apparent due to the fact that the new *PCP Act* did not come into force at the time originally anticipated by the PMRA (Spring 2004). Notwithstanding this, the PMRA has made significant progress in developing proposed regulations under the Act and supporting processes to enable the provisions of the Act to be implemented, leading to increased opportunities for public participation and the public availability of information on pesticides and pesticide regulation.

Our findings also suggest that a wide range of stakeholder consultation activities are being undertaken, principally through the minor use and risk reduction programs, and the PMRA is making a wide range of information related to changes to the regulatory framework available to stakeholders and interested members of the public. Opportunities for stakeholder and public participation will increase after the new *PCP Act* comes into force.

Equally important have been some of the unintended or unexpected effects of the Initiative. For example, stakeholders and the participating departments and agencies reported that interactions with, and access to, the PMRA are more open and effective; AAFC has strengthened the linkages between its research programs related to pest management and environmental sustainability to the needs of both the PMRA and grower groups; and, information sharing and joint work has facilitated the identification of opportunities to streamline the process for developing and evaluating minor use submissions.

Most managers and stakeholders who were able to comment on the likelihood of the BPC Initiative achieving its long-term objectives—increased public and stakeholder confidence in pesticide regulation, protected health and environment, and increased competitiveness of the agri-food and forestry sectors—are optimistic. These interviewees generally feel that BPC program components have established a solid foundation for achieving the intended final outcomes; however, a few noted that it is premature to assess success since some program components have yet to be fully implemented. Stakeholders noted that although the Initiative has established a solid foundation for success, there are challenges remaining that may prevent the Initiative from reaching all of its long-term outcomes, specifically those related to competitiveness of Canadian growers. Stakeholders representing provincial governments and industry groups highlighted a need to improve harmonization between pesticide regulations in the United States and Canada and to ensure that Canadian producers have access to pesticide products that are already available in the United States.

## **G. Appropriateness of the design for achieving planned outcomes**

The literature on new global regulatory initiatives indicates that risk managers, in all industrialized countries, are facing increasingly severe challenges. Traditional science-

based systems of risk management are being challenged to become more open and to respond to a variety of pressures to regulate more effectively. These new regulatory approaches have the following defining characteristics:

- Greater inclusiveness, particularly at the interface between scientific data on risk and the development of regulatory approaches to manage risk.
- More open and transparent regulatory measures with more accountability for regulators.
- More specific discussion and application of the precautionary principle and other approaches to greater risk aversion.
- More use of independent peer review, better training of regulators and more highlighting of scientific uncertainties.
- More separation of “objective-scientific” risk measurement and assessment from risk management policies.

Experiences with public confidence and trust issues in other jurisdictions also indicate that any public confidence building must take a long-term perspective and build on a foundation of institutional change. Our review of the literature in this area suggests five key lessons or principles for building, and maintaining, public confidence:

- General outreach campaigns to the public are believed to have a limited impact, at best, and may even be counter-productive.
- Institutional changes—to improve transparency, strengthen regulatory processes, acknowledge uncertainties and focus on a core value of protecting the public—are a necessary pre-condition for building public confidence.
- Public confidence and trust is believed to be context-specific, that is, members of the public are more likely to review and revise their views and confidence in the regulatory system in response to specific adverse events.
- Public confidence levels can fall sharply in response to an adverse event but require a disproportionate level of effort to rebuild.
- Institutional changes should also mean that regulatory agencies are better prepared to respond when an adverse event occurs, and for their responses to have a higher degree of credibility with the public.

The structure of the current logic model for the BPC Initiative is not closely aligned with the design strategy for the Initiative. Our analysis of the BPC’s design and the scope and targets of the constituent programs indicates that the logic model is weak in three areas:

- ***Weak causal linkages between program outcomes and the level of public confidence.*** The Initiative does not include activities to actively inform Canadians about pesticide regulation and the safety of pesticide products. While the nature of the various BPC program elements should make it possible to increase public confidence, they do so by aiming to reduce the risk that the regulatory system will be perceived as not evolving in response to public concerns and new scientific knowledge. Equally, the indirect nature of the program impacts on confidence

levels means that it will be difficult to measure and separate these influences from other influences outside the government's control.

- ***Interdependencies between the various groupings of programs are not recognized***, particularly the interdependencies between the research and monitoring programs and the development of safer pest management strategies.
- ***Improved competitive parity of the agri-food and forestry sectors rather than increased competitiveness***. Increased access to safer pest management practices and products should mean that users in the agri-food and forestry sectors will be on a more equitable basis compared to competitors in other countries, particularly the U.S.

We believe the logic model for the Initiative should be modified to address these logical weaknesses and better reflect the design and intent of the programs approved by Treasury Board.

## **H. Recommended adjustments to improve progress toward planned outcomes**

### **1. Adopt a revised logic model for the Initiative**

We recommend that the participating departments and agencies adopt a revised logic model that recognizes the interdependencies between the research and monitoring, and pest management programs within the Initiative, and more accurately reflects the range of outcomes that can realistically be achieved by the Initiative, using the model presented in Exhibit VII-1 as a starting point.

### **2. Finalize the performance measurement framework and collect outcome data**

We recommend that the departments and agencies participating in the BPC Initiative develop a single performance measurement framework for the Initiative that identifies and defines a concise set of performance measures for the elements of the revised logic model, particularly outcome measures, and ensure that data collection and performance monitoring activities are generating the required data.

### **3. Strengthen the integration of program activities**

We recommend that the 5NR Working Group develop a single integrated work plan for the research and monitoring programs for the remaining years of the BPC Initiative. The process for developing this plan should focus on developing a collective response to the PMRA's research priorities, ensuring that these priorities also reflect the capacity of the research groups to meet these needs and the time frames required to obtain useful knowledge. Research needs of the joint PMRA-AAFC Pesticide Risk Reduction Program should also be integrated into this planning, as appropriate.

In addition, and in order to strengthen the overall integration and coordination of the Initiative, we recommend that all six participating departments and agencies undertake

joint planning for both the summative evaluation and development of a strategy for the direction and scope of the BPC Initiative beyond the period of the current funding agreement.

#### **4. Strengthen the role of the 5NR Working Group**

We recommend that a committee of Directors-General or Assistant Deputy Ministers from each of the participating departments and agencies be struck to develop the future strategy for the conduct of cross-government pesticide research and monitoring. The roles of this committee should include:

- Review and approval of the integrated 5NR work plan and the fit of that work plan within the priorities of the 5NR departments and agencies' own programs.
- Review and approval of proposed performance measures for the research and monitoring programs.
- Review of results achieved and the effectiveness of the horizontal approach taken within the BPC Initiative.
- Consideration of the inter-dependencies with other BPC Initiative programs.
- Development of a vision and strategy for the future operation of the pesticides research and monitoring initiative post-2007/08.
- Participation in the oversight of the planning and conduct of the summative evaluation.

#### **5. Implement a targeted communications strategy**

We recommend that a targeted communications strategy be developed and implemented to “brand” the BPC Initiative. This branding should develop recognition and understanding among both external stakeholders and BPC managers and staff of the overall design, objectives, activities and benefits of the Initiative. The strategy should be integrated with the broader communications strategies of the partners in the Initiative, particularly those of the PMRA and AAFC, that are intended to increase stakeholder and public understanding of the pesticide regulatory system.

### **I. Evaluation framework for the summative evaluation**

Achievement of the anticipated final outcomes of the BPC Initiative depends on a sequence of programs and activities in which initially, more and better information related to pesticide risks is gathered. This information is assembled in the initial stage of the Initiative and then affects the regulatory process, leading to better regulation and increased availability and use of pest control products with lower risks in the intermediate term. Only when these improved regulatory outcomes are observed will the “final” or long term” outcomes be observed.

Our interpretation of the intent of the TB Submission for the Initiative and the evaluation findings is that ultimately public confidence will be increased because the regulatory system for pesticides has been strengthened, opportunities for public participation in

regulatory decision making are increased, and the impacts of pesticides on health and the environment are being studied and monitored. The implicit expectation in this strategy is that a stronger scientific knowledge base and more responsive regulatory system should reduce the likelihood of confidence-reducing events. The literature review findings suggest that such events can produce dramatic and long-lasting reductions in public confidence. This preventative approach is distinct from approaches that attempt to build public confidence by communicating and explaining the structure and strengths of current regulatory systems without making underlying changes to the regulatory framework or processes.

This strategy is not fully captured in the current logic model for the BPC Initiative and we have recommended that a revised logic model be developed to reflect the interdependencies between the different program activities and the indirect nature of the linkages between program outcomes and changes in public confidence. Exhibit VII-1 proposes a starting point for this revised logic model. This model proposes a set of final outcomes that can be more readily attributed to the impacts of the various BPC program activities.

The overall approach proposed for the summative evaluation framework calls for the conduct of:

- Separate evaluation studies assessing each of the thirteen programs in the BPC Initiative focusing on such areas as:
  - Outputs and outcomes versus objectives.
  - Effectiveness of program management and coordination, including linkages to other BPC programs and related departmental/agency programs.
  - Need, or otherwise, for the continuation of programs in current form.
  - Future program needs/priorities.
  - Opportunities for cost-effective improvements to program design and delivery.
  - Lessons learned.
- One evaluation study on cross-cutting aspects of the BPC Initiative, such as, governance, integration and coordination of work planning, communications, performance reporting, resource planning and allocation, and information sharing.
- An overall integrated evaluation report presenting a synthesis of key findings from the individual program reports and the cross-cutting report to provide an overall perspective on outcomes, including the issue of attribution, and recommendations regarding the future need for, and direction of, the Initiative.
- The conduct of in-depth qualitative research using a program of structured focus groups to investigate how public confidence changes in response to the BPC programs.

The proposed summative evaluation matrix (Exhibit VII-2 in Chapter VII) organizes the evaluation questions by major issue and describes the data indicators and data sources for each question and sub-question. The evaluation questions concern:

- The rationale and continued relevance of the BPC Initiative, focusing on the current and anticipated future need for the Initiative, its responsiveness to any changes in the regulatory environment, and awareness of the Initiative and intent of its program among stakeholders.
- The effectiveness of the design, delivery and governance of the BPC Initiative, including the extent to which planning, management and performance measurement activities are integrated and implemented as intended; and, whether it overlaps, duplicates or complements other pesticide research, monitoring and regulatory programs.
- The identification and assessment of results achieved, compared to the target outcomes set for the Initiative.
- The cost-effectiveness of the overall Initiative and its programs, recognizing that key outputs from many of the BPC programs are non-standardised, and thus, cannot be used for measures of output per unit of cost, or will not be realised before the time of the summative evaluation. Quantitative analysis of cost and timeliness should be performed where practical, in addition to a more qualitative approach to assessing value for money and identifying potential performance improvement opportunities.

The evaluation questions also address considerations covered by the policy test questions used by the Treasury Board Expenditure Review Committee. The rationale and relevance questions incorporate aspects of the Committee's questions on public interest, role of government, federalism and partnership, and the design, delivery and cost-effectiveness questions consider value for money and efficiency.

Proposed data collection methodologies for the cross-cutting evaluation study consist of:

- A program of key informant interviews involving BPC program managers, senior management of participating departments and agencies, other levels of government, representatives of key stakeholder groups and pesticide regulatory agencies in other jurisdictions.
- Review of documentation relating to the BPC Initiative, spanning such areas as: planning documents, performance reports, results/data for individual program elements, budget and expenditure data, tracking of stakeholder consultation and public participation, etc.
- Review of documentation on programs concerned with managing pesticide use and risks by other levels of government, and in selected other jurisdictions.
- A survey (most likely web-based) of users of the enhanced transparency elements of the new PCP Act and users of related areas within the PMRA web site to obtain information regarding public awareness and the perceived value of mechanisms to strengthen the regulatory system.



- Case studies of the development, adoption and use of minor use products and reduced risk and commodity-specific risk reduction strategies as well as the relative access of Canadian and U.S. growers to minor use and reduced risk products.
- Literature review, investigating experiences with similar pesticide regulation programs in other jurisdictions as well as external literature relating to the performance of the Canadian regulatory system, e.g., data on pesticide-related incidents in the workplace.

Data collection requirements for the evaluations of individual programs will need to be tailored to the nature of these programs and coordinated with the design and conduct of the cross-cutting study.

# I. Introduction

This report presents the findings, conclusions and recommendations of a formative evaluation of the *Building Public Confidence in Pesticide Regulation and Improving Access to Pest Management Products* (BPC Initiative).

The BPC Initiative was approved by Treasury Board in 2002, in response to a submission by six federal departments and agencies to authorize funding for a horizontal initiative intended to:

- Strengthen health and environmental protection.
- Build public confidence in pesticide regulation.
- Develop sustainable pest management strategies.
- Improve growers' access to reduced risk and minor use pesticides

Horizontal initiatives of the federal government are defined by Treasury Board as initiatives where partners, from two or more organizations, have agreed under a formal funding agreement to work towards the achievement of shared outcomes.

Total funding for the six-year term of the Initiative—from 2002-03 to 2007-08—is \$185 million. Ongoing funding of \$20.4 million per year will be added to the A-bases of the six departments and agencies to enable future delivery of the core program elements. The six departments and agencies are: Agriculture and Agri-food Canada (AAFC), Canadian Food Inspection Agency (CFIA), Environment Canada, Fisheries and Oceans Canada (DFO), Natural Resources Canada (NRCan), and Health Canada's Pest Management Regulatory Agency (PMRA).

This study is one of two external assessments of the Initiative required by Treasury Board, the other being a summative evaluation to be conducted prior to the end of the six-year term. Formative evaluations are used to assess the extent to which policies, programs and strategic initiatives have been implemented as planned, determine if improvements to delivery and management approaches are required, and test for early evidence of results. A formative evaluation should also determine if there are any unanticipated obstacles or barriers that may impact the ultimate success of the initiative. Information from formative evaluations should allow program managers to make adjustments to increase the likelihood that intended outcomes will be achieved.

The report commences with an overview of the BPC Initiative, scope of the formative evaluation and description of the methodology used. The following chapters then summarize our findings and conclusions relating to the delivery, governance and performance management, and design of the Initiative, and present a guiding framework for the conduct the summative evaluation. The final chapter contains our proposed recommendations with regard to the management and delivery of the Initiative.

## II.

## Context

### A. Overview of the BPC Initiative

#### **1. Background to the BPC Initiative**

The development and implementation of the BPC Initiative responds to a number of central concerns in the debate over pesticide use and regulation in Canada stretching back to the multi-stakeholder Pesticide Registration Review in 1990 that led to the establishment of the PMRA. Key themes in this debate related to the availability of information related to pesticide regulation and use, long-term impacts and safety of pesticides, and availability of, and access to, minor use and reduced risk pesticide products to the agri-food and forestry sectors.

#### **2. Scope and objectives of the BPC Initiative**

The BPC Initiative is a mechanism to implement Cabinet decisions made in 2001/02 regarding pesticide regulation. These decisions were intended to:

- Strengthen health and environmental protection.
- Build public confidence in pesticide regulation.
- Develop sustainable pest management strategies.
- Improve growers' access to reduced risk and minor use pesticides.

Six federal departments and agencies are participating in the Initiative:

- Lead agency — PMRA (Health Canada)
- Agriculture and Agri-Food Canada (AAFC)
- Canadian Food Inspection Agency (CFIA)
- Environment Canada
- Fisheries and Oceans Canada (DFO)
- Natural Resources Canada (NRCan).

#### **3. Design and delivery strategy**

The strategy underlying the design and delivery of the BPC Initiative calls for public and stakeholder confidence in pesticide regulation to be increased through actions in three areas, as summarized in Exhibit II-1.

**Exhibit II-1**  
**Design and delivery strategy for the BPC Initiative**

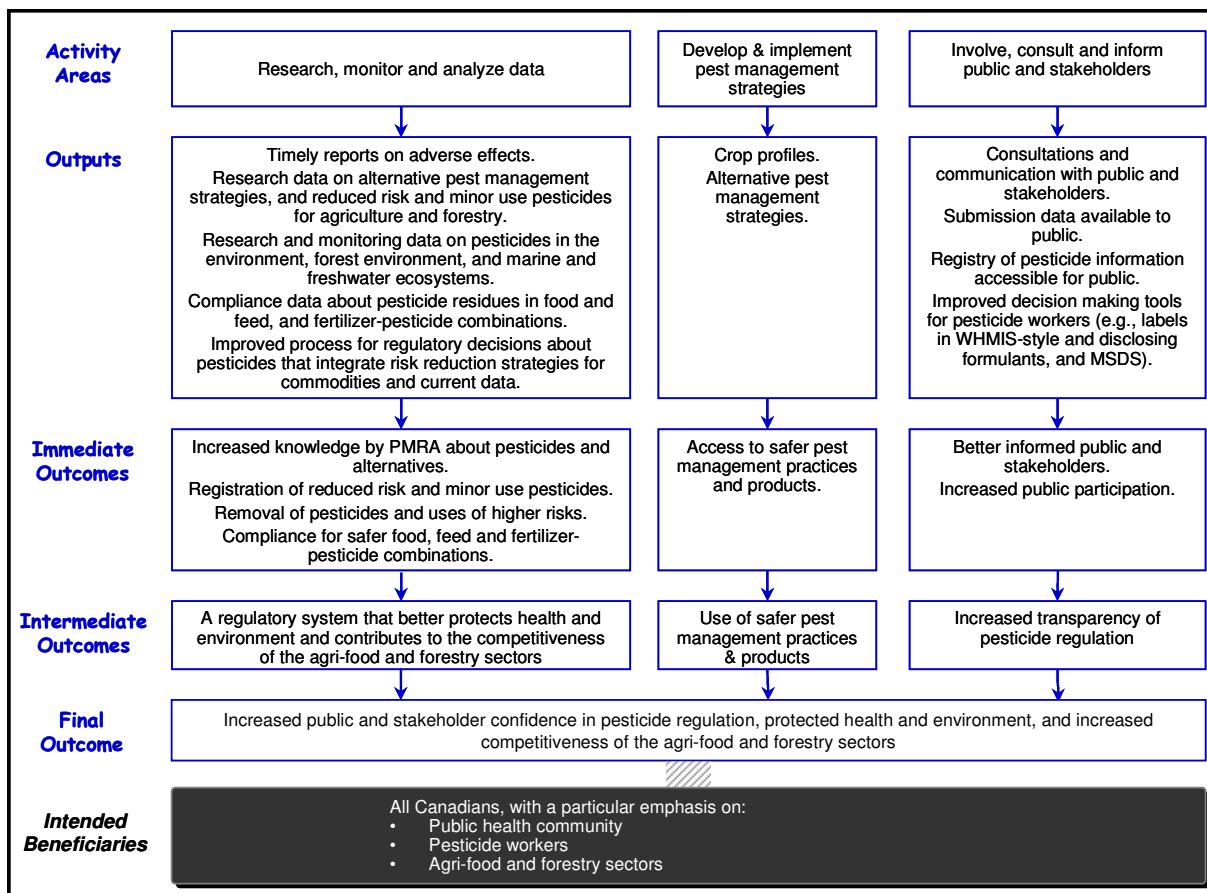
Strategy Elements	Principal Actions
<b>Public and stakeholder confidence will be increased by:</b>	
<p><b>(a) Involving, consulting and informing public and stakeholders with regard to pesticide regulation decisions</b></p>	<ul style="list-style-type: none"> <li>■ Increase the openness and transparency of the pesticides regulatory system by:               <ul style="list-style-type: none"> <li>- Consulting on proposed major decisions.</li> <li>- Providing opportunities for reconsideration of major decisions.</li> <li>- Improving public access to regulatory information, including opportunities to view confidential test data.</li> <li>- Sharing confidential test data and business information with other federal, provincial, territorial and international regulators.</li> </ul> </li> <li>■ Require product safety information in workplaces where pesticides are used or manufactured.</li> <li>■ Update regulation of formulants.</li> <li>■ Collect information, investigate and report on adverse effects of pesticides. (Also contributes to element (b).)</li> </ul>
<p><b>(b) Researching and monitoring the presence and effects of pesticides</b></p>	<ul style="list-style-type: none"> <li>■ Improve planning for, and coordination of, pesticide-related research within the federal government.</li> <li>■ Accelerate the re-evaluation of older pesticides.</li> <li>■ Strengthen research and monitoring of the presence of pesticides in the environment and effects on health and the environment</li> <li>■ Strengthen monitoring and enforcement of residue limits in foods, fertilisers and fertiliser-pesticide combinations.</li> <li>■ Improve the scientific basis for risk analysis and regulatory decision making.</li> </ul>
<p><b>(c) Developing and implementing safer pest management products and practices</b></p>	<ul style="list-style-type: none"> <li>■ Develop pest management strategies and support their adoption by the agri-food and forestry sectors. (Also contributes to elements (a) &amp; (b).)</li> <li>■ Support the development and registration of reduced risk and minor use pesticides. (Also contributes to elements (a) &amp; (b).)</li> </ul>

Source: BPC Initiative documentation.

The funding allocated to the BPC Initiative also served to enable implementation of the new *Pest Control Products Act (PCP Act)*. The new *PCP Act* received Royal Assent in December, 2002. The new Act and regulations are intended to strengthen safeguards against human health and environment risks posed by pesticides based on modern risk management concepts, an increased level of informed public participation, improved post-registration control, and a clear foundation for reducing pesticide risks.

The logic model for the Initiative, shown in Exhibit II-2, summarizes the means by which the anticipated improvements in public confidence, protection of health and the environment, and the competitiveness of the agri-food and forestry sectors would be achieved. Exhibit II-3 summarizes the nature of the thirteen constituent programs of the Initiative, their allocation across the participating departments and agencies, linkages to the three principal lines of activity, and budgets. The first budget column is for the six-year term from 2002-03 to 2007-08 and the second column shows the post-2007-08 ongoing (A-base) funding.

**Exhibit II-2  
BPC logic model**



(Source: Based on content of the BPC TB Submission and supporting RMAF.)

It is important to note that the BPC Initiative focuses on measures to enable interested members of the public and stakeholders to participate in regulatory decision making and improve their access to information on pesticide regulation. This approach differs from the view presented in the Standing Committee on Environment and Sustainable Development's May 2000 report on pesticide regulation, which argued that there are two conditions for fostering public confidence: actively informing and educating Canadians about pesticide use, and involving them in the decision-making process.<sup>1</sup>

The approved strategy and program elements included provisions to involve members of the public in regulatory decision-making and consult with stakeholders. The key mechanisms involved are the various actions to increase the openness and transparency of regulatory decision making and to involve stakeholders in the development of risk reduction strategies and products. The BPC strategy does not include actions to actively inform and educate Canadians about pesticide use. However, outside of the BPC Initiative, we understand that the PMRA undertakes communications and outreach

<sup>1</sup> Standing Committee on Environment and Sustainable Development, *Pesticides: Making the Right Choice for the Protection of Health and the Environment*, May 2000. (Accessed at: <http://www.parl.gc.ca/InfocomDoc/36/2/ENVI/Studies/Reports/envi01-e.html>.)

activities intended to inform Canadians about pesticide use and regulation. This role flows from the provision in its mandate to *encourage public awareness in relation to pest control products by informing the public, facilitating public access to relevant information and public participation in the decision-making process*. As such, we expect that the Agency's broader communications strategies would include outreach activities that complement the BPC programs concerned with public transparency and participation.

## B. Objectives and issues for the formative evaluation

The objectives of this formative evaluation of the BPC Initiative were to:

1. *Assess implementation of planned activities and outputs of BPC since inception in 2002.*
2. *Assess the governance and performance management of the initiative relative to expectations of participating agencies/departments and to best practices of comparable initiatives in other jurisdictions.*
3. *Assess available evidence of progress towards planned outcomes and whether the initiative, as designed, is the appropriate mechanism for achieving planned outcomes.*
4. *Identify successful practices in the delivery, governance and performance management of the BPC, and adjustments that would improve progress toward planned outcomes.*
5. *Identify issues, questions, methods of inquiry, information sources and challenges for consideration in developing the evaluation framework for a summative evaluation in 2007.*

Seven evaluation questions were investigated to address these evaluation objectives:

Issues	Key Questions
<b>Delivery</b>	<ul style="list-style-type: none"> <li>■ Has the BPC Initiative been implemented as intended?</li> <li>■ Is the Initiative building the required partner support?</li> </ul>
<b>Governance and Performance Measurement</b>	<ul style="list-style-type: none"> <li>■ Are governance and performance management adequate to support decision-making that responds to changing needs with a consistent focus on the achievement of planned results?</li> <li>■ What issues, questions and methods of inquiry will be appropriate for the summative evaluation framework? How will the available evidence-base limit the scope or quality of the summative evaluation?</li> <li>■ How do the governance and performance management of the BPC compare with best practices of other multi-jurisdictional efforts to improve the regulation of hazardous substances and/or change the behaviour of users?</li> </ul>
<b>Design</b>	<ul style="list-style-type: none"> <li>■ To what extent have immediate outcomes been achieved?</li> <li>■ Is the Initiative, as designed, the appropriate mechanism for achieving longer-term outcomes? Is it reaching the intended target populations?</li> </ul>

**Exhibit II-3**  
**BPC programs and linkages to activity groupings**

Programs/Activities	Resp. Dept/ Agency	Areas of Activity			Budgets (\$m.)	
		Consult <sup>1</sup>	Research <sup>2</sup>	Pest Management <sup>3</sup>	02/03 to 07/08	Post-07/08 (Annual)
1. Meeting Workplace Hazardous Material Information System (WHMIS) objectives for pesticides. <ul style="list-style-type: none"> <li>- Regulations in Canada Gazette II</li> <li>- Regulatory guidance &amp; SOPs</li> <li>- WHMIS-style labels and safety data sheets available for pesticides in workplaces.</li> </ul>	PMRA	✓			\$4.5	\$0.90
2. Updating processes to regulate pesticide formulants. <ul style="list-style-type: none"> <li>- Formulants database and classification system</li> <li>- Phased in update of statement of product specification forms for all products by Dec.2006</li> <li>- Removal or label-disclosure of formulants from products where safe use is not supported, or that are allergens or preservatives.</li> </ul>	PMRA	✓			\$9.0	\$1.50
3. Tracking adverse effects of pesticides. <ul style="list-style-type: none"> <li>- Regulations in Canada Gazette II</li> <li>- Develop regulatory guidance, internal process and database</li> <li>- Operational system.</li> </ul>	PMRA	✓	✓		\$6.0	\$1.10
4. Linking pesticide regulation and research. <ul style="list-style-type: none"> <li>- Annual report on PMRA research needs</li> <li>- Communication and coordination activities of the 5NR working group on pesticide research</li> <li>- Revised risk assessment procedures.</li> </ul>	PMRA		✓		\$3.4	\$0.80
5. Accelerated and priority re-evaluation of older pesticides. <ul style="list-style-type: none"> <li>- Re-evaluate and amend/revoke pesticides used on foods and in residential settings or that are subject to risk mitigation in USA</li> <li>- Publish evaluations and decisions</li> <li>- Re-assess and amend/revoke maximum residue limits of pesticides in food and feed</li> </ul>	PMRA		✓		\$13.8	\$2.50
6. Consultation on and reconsideration of registration decisions, access to regulatory information, sharing confidential information. <ul style="list-style-type: none"> <li>- Consult on major regulatory decisions by publishing proposed decisions (on major new registrations, processes and re-evaluations) for public comment, and decision documents that include a summary of comments.</li> <li>- Manage a process for reconsideration of major decisions by a review panel.</li> <li>- Non-confidential regulatory information is accessible in a public registry.</li> <li>- Reading rooms established for public to view confidential data</li> <li>- MOUs with other regulators include provision to share confidential information.</li> </ul>	PMRA	✓			\$18.4	\$3.60

Programs/Activities	Resp. Dept/ Agency	Areas of Activity			Budgets (\$m.)	
		Consult <sup>1</sup>	Research <sup>2</sup>	Pest Management <sup>3</sup>	02/03 to 07/08	Post-07/08 (Annual)
<p>7. Developing and implementing commodity specific risk reduction strategies.</p> <ul style="list-style-type: none"> <li>- Conduct research to support the introduction of minor use pesticides that pose a reduced risk to the environment. (AAFC)</li> <li>- Criteria and a priority list for commodity risk reduction strategies. (AAFC + PMRA)</li> <li>- Crop profiles to identify pest management needs for priority commodities (AAFC + PMRA)</li> <li>- Risk reduction strategies for priority commodities (AAFC + PMRA)</li> <li>- Availability of crop profiles and risk reduction strategies to stakeholders (PMRA + AAFC).</li> <li>- Availability of education and/or extension material to implement strategies (AAFC).</li> <li>- Measure adoption and impact of commodity risk reduction strategies (PMRA + AAFC).</li> <li>- Generate data from field trials and liaise with IR-4 and stakeholders, to support the preparation of registration applications for minor-use/reduced risk pesticides (AAFC)</li> <li>- PMRA considers risk reduction strategies in registration and re-evaluation decisions.</li> <li>- PMRA offers pre-submission consultations and an electronic system for submissions and meets timelines for review of reduced risk (RR) and minor use (MU) submissions.</li> </ul>	PMRA & AAFC	✓	✓	✓	\$46.0 \$58.5	\$4.00 \$2.50
<p>8. Developing and facilitating use of reduced risk pesticides and biological pesticides for forest pest management.</p> <ul style="list-style-type: none"> <li>- Research and registration package documents for reduced risk pesticides and integrated pest management systems for forest pest management.</li> </ul>	NRCan	✓	✓	✓	\$3.6	\$0.50
<p>9. Enhanced monitoring and enforcement of pesticide residue limits in foods and feed.</p> <ul style="list-style-type: none"> <li>- Develop/enhance analytical methods to detect the presence of pesticide residues.</li> <li>- Extend monitoring activities under the National Chemical Residue Monitoring Program (NCRMP) to monitor for the presence/absence of pesticide residues in food commodities consumed by young Canadians.</li> <li>- Publish annual reports on findings.</li> <li>- Initiate compliance and enforcement actions as required.</li> </ul>	CFIA		✓		\$2.7	\$0.25
<p>10. Enhanced monitoring and enforcement of pesticide residues in fertilizers and pesticide guarantee verification in fertilizer/ pesticide combinations.</p> <ul style="list-style-type: none"> <li>- Policy and process for monitoring and surveillance of fertilizer-pesticide combinations</li> <li>- CFIA/PMRA agreement to obtain up-to-date safety and label information</li> <li>- Updated Compendium of Fertilizer-Use Pesticides</li> <li>- Increased number of fertilizer samples analysed.</li> <li>- Increased monitoring of fertilizer-pesticide labels and of operators, to verify compliance.</li> </ul>	CFIA		✓		\$1.9	\$0.25
<p>11. Monitor and research the presence and effects of pesticides in marine and freshwater ecosystems.</p> <ul style="list-style-type: none"> <li>- Establish a pesticide research unit for marine and freshwater systems.</li> <li>- Research projects initiated to investigate effects of pesticides on fish and fish habitats.</li> </ul>	DFO		✓		\$6.9	\$1.00



Programs/Activities	Resp. Dept/ Agency	Areas of Activity			Budgets (\$m.)	
		Consult <sup>1</sup>	Research <sup>2</sup>	Pest Management <sup>3</sup>	02/03 to 07/08	Post-07/08 (Annual)
12. Research and monitor pesticides in the forest environment. <ul style="list-style-type: none"> <li>- <i>Develop models for spray drift of forestry pesticides.</i></li> <li>- <i>Develop appropriate protocols to test newly emerging pest-specific products and to study the synergistic effects on non-target organisms of the environmental load from multiple products.</i></li> <li>- <i>Sharing of research findings.</i></li> </ul>	NRCan		✓		\$3.0	\$0.50
13. Monitor and research (the) presence and effects of pesticides in the environment. <ul style="list-style-type: none"> <li>- <i>Establish an EnvCan Pesticide Program to conduct research and monitoring on priority in-use pesticides and to synthesize existing exposure and effects data.</i></li> <li>- <i>Advise PMRA and provide environmental data required for risk assessment and re-evaluation of older pesticides.</i></li> <li>- <i>Coordinate with other 5NR departments.</i></li> </ul>	Env Can		✓		\$8.0	\$1.00

1. Involve, Consult and Inform Public and Stakeholders.
2. Research, Monitor and Analyse Data
3. Develop and Implement Pest Management Strategies

Source: BPC Initiative documentation.

## III. Methodology

### A. Approach

The core evaluation issues for this study were concerned with:

- Program implementation, delivery and partner support.
- Governance and performance management of the BPC Initiative.
- Achievement of immediate outcomes.
- Appropriateness of the Initiative's design.
- Identification of issues for examination in the summative evaluation.

The assessment of these issues also needed to recognize that the Initiative is quite recent (operating since 2002-03), involves six federal departments and agencies undertaking a mix of program activities that address various weaknesses or gaps in the regulatory framework for pesticides, and enables implementation of the new *PCP Act*. As such, the Initiative required the development and implementation of new programs and activities, establishment of new coordination and planning processes among the participating departments and agencies, and supporting performance measurement and reporting processes.

The approach to the evaluation design was quite straightforward, in that it looked at the experience in implementing the Initiative and establishing supporting planning, management and reporting processes, reviewed the available performance data, and attempted to identify lessons learned from similar initiatives in other jurisdictions and from analogous horizontal initiatives within the Government of Canada. Three principal lines of enquiry were used:

- Review of documentation related to the development, implementation and interim results of the BPC Initiative.
- Literature search for information on approaches to building public confidence and improving access to minor use and reduced risk pesticides in other jurisdictions, and the identification of lessons from other federal horizontal initiatives.
- Key informant interviewing program with managers of the BPC Initiative programs and a selective cross-section of key external stakeholders.

Data from each line of enquiry were analyzed and the detailed findings summarized in three technical reports that were used as working papers to aid the preparation of the overall evaluation report.

This approach was designed to provide the principal users of the findings with information to improve the management and delivery of the Initiative (as appropriate), and define and focus the requirements of the required summative evaluation. These principal users span: BPC Initiative managers in the six participating departments and agencies, senior

management of the participating departments and agencies, Health Canada's Departmental Performance Measurement and Evaluation Directorate, and Treasury Board Secretariat (TBS).

## B. Documentation review

The documentation review component of the evaluation both assisted the evaluation team in developing a thorough understanding of the BPC Initiative and contributed to the assessment of the evaluation issues. As well, the information gathered served as useful context for interpreting, confirming and supplementing information gathered through the literature review and key informant interviews. Documents included in the document review were those provided by the participating departments and agencies and related to planning, management and results, and were assessed according to their relevance to the BPC Initiative.

In selecting documents for inclusion in the review, we gave priority to those documents that provided information on either the historical background or context for the BPC Initiative, plans for individual programs and groupings of programs, program design and delivery structures, or program results. In this regard, we found the following types of documents to be most relevant:

- Reports of Parliamentary committees
- Treasury Board submission.
- Memoranda of Understanding
- Performance management frameworks and annual performance reports
- Program planning reports
- Reports and presentations on research findings.
- Departmental working documents and reports
- PMRA's Annual Report
- Minutes of interdepartmental committee and working group meetings.

## C. Literature review

Our literature search focused on the identification and review of approaches to building public confidence and improving access to minor use and reduced risk pesticides in other jurisdictions, and on the identification of lessons from other horizontal initiatives of the federal government and related initiatives in other jurisdictions. The literature review was intended to ensure that all of the relevant published literature that might contribute to performance and management of the BPC Initiative was reviewed and the findings used as input to the assessment of the implementation of the Initiative and planning for the summative evaluation.

The search strategy in the literature review was based on BPC-related keywords supplemented by combinations focusing on "and". Keyword combinations of the various features of BPC including "building public confidence", "horizontal governance",

“pesticide regulation”, “risk reduction”, “risk assessment”, “risk management”, “risk policies”, “agricultural use” and “summative evaluation” were the starting points, using quotation marks and logical operators to narrow the search. Additional sources were also identified through the document review and suggestions from the key informant interviews.

To carry out this review effectively, the very large literature in this area was grouped into a set of issues related to different elements of the BPC Initiative and the differing information requirements of the formative and summative evaluations. The groupings used were:

- Initiatives to build public confidence
- Governance of horizontal initiatives
- Risk management issues and program challenges
- Pesticide risk reduction initiatives
- Assessing immediate and longer-term outcomes
- Planning for the summative evaluation.

The supporting technical report summarized the findings in each of these six areas.

## **D. Key informant interviews**

Key informant interviews were used to provide primary data on the performance of the BPC Initiative. A total of 48 people participated in these interviews, spanning:

- BPC program directors, managers and/or officers responsible for the oversight and conduct of the thirteen BPC programs. (Number of interviewees: 28)
- External stakeholders, comprised of a cross-section of representatives of:
  - Provincial government ministries (4 interviewees from 3 ministries)
  - Grower groups (5 interviewees, 4 organizations)
  - Industry groups (2)
  - Research networks and institutions (6 interviewees, 4 organizations)
  - Public interest groups (1)
  - Occupational health organizations (1)
  - Municipal government (1).
 (Number of interviewees: 20)

This was a convenience sample, with selection of potential interviewees biased towards current participants in the Initiative and informed observers. Selection of targeted interviewees was based on:

- Representation from all BPC programs, focusing on the managers and officers accountable for program planning and management of the programs.

- In the case of the external stakeholders:
  - *Knowledge/familiarity with the BPC Initiative as well as immediate or anticipated results.* In this regard, we found that various stakeholders were often familiar with specific programs—most typically the minor use and risk reduction programs undertaken by AAFC and the PMRA—rather than the overall BPC Initiative and full sweep of programs.
  - *Distribution of interviewees by category.* Within the limits of our target of completing 15-20 interviews with external stakeholder representatives we sought to obtain reasonably balanced participation across the various sub-groups identified above. In this regard, grower groups and research networks and institutions were most common (4 apiece), followed by provincial ministries (3), industry groups (2) plus a public interest group, occupational health organization and municipal government organization.

Our master list of prospective interviewees was developed in consultation with members of the EWG and drew upon lists of external members of advisory groups to the PMRA and the AAFC Pest Management Centre. Target interviewees were contacted by telephone and invited to participate. Interviewees were sent a copy of the applicable interview guide (one for BPC managers/officers and a one for external stakeholders) in advance of interviews to facilitate preparation. Interviewees were informed that individual responses would remain confidential to the consulting team and that findings would be grouped for reporting purposes. Similar assurances were included in the introduction to the interview guides and prospective interviewees were given the opportunity to opt out. Some interviews with BPC managers/officers involved 2 or 3 representatives of the applicable programs.

## E. Limitations

This formative evaluation provides the results of a set of exploratory research activities, designed to inform an assessment of BPC implementation and management. These results, however, are not based on a statistically rigorous survey that could be used to make inferences and draw conclusions across all of the target populations of the Initiative.

The key informant interviews involved a convenience sample and, as such, were inherently non-random, being mostly composed of people working on BPC programs or familiar with the nature of some of the BPC programs. However, even within this relatively informed group, many key informants could not answer all of the interview questions because they were not familiar with the full range of programs or management structures. In reporting the findings we had to consider both the context for answers to different questions, such as, the extent to which those who answered were most closely involved in a particular program or aspect of the BPC Initiative, more so than the relative frequency of responses. To the extent that it is meaningful, we have provided indications of the numbers of interviewees who answered questions on different aspects of the Initiative.

In selecting potential key informants among stakeholders priority was given to external stakeholder organizations that were familiar with the BPC Initiative or one or more of the component programs. This priority reflected the fact that this was a formative evaluation

focusing on the extent to which the initiative has been delivered as planned, its governance, and design. Some key informants among the external stakeholders concerned with pesticide use issues had limited or no awareness of the BPC Initiative and its programs but provided comments based on the concerns of their organizations or their understanding of the nature of public concerns. As a result it is not possible, nor realistic, to view the findings as being representative of the level of knowledge of pesticide regulation and effects of pesticide use among stakeholders and the public.

Further limitations of this formative study include the fact that there is not yet full and consistent reporting of outputs across program initiatives although clear progress is being made in this direction. Finally, the Initiative has not been in place long enough to develop data and conclusions on the extent to which impacts/outcomes have been successfully achieved.

## IV. Findings — Delivery

### A. Implementation

The BPC Initiative is a horizontal initiative incorporating six federal departments and agencies that are responsible for the BPC programs, each with a distinct budget, management structure and accountability framework. In many cases, the BPC Initiative resulted in an expansion of an existing program or involved the addition of new program components. For example, program 11 represents an expansion of existing DFO research activities to specifically include pesticides research and monitoring, and enable DFO to provide advice and research results to the PMRA.

The thirteen programs that make up the BPC Initiative fall into three broad categories:

- Programs intended to strengthen the operation and transparency of the regulatory system under the new *PCP Act* (#s 1-3, 6).
- Programs focused on minor use and risk reduction products and practices (#s 7, 8).
- Programs to research and monitor environmental and health effects (#s 4, 5, 9-13).

Findings from the review of documentation and key informant interviews, summarized in Exhibit IV-1, indicate that the minor use and risk reduction, and research and monitoring programs have been implemented. The four transparency programs have not progressed to the same extent and cannot be fully implemented until the new *PCP Act* comes into force. BPC managers from these four program components reported that these programs have made significant progress in developing processes and tools to enable program delivery once the new *PCP Act* comes into force. For example, under program 3, strategies for mandatory reporting of adverse effects by registrants as well as the necessary database for registrant reporting have been developed. Delays in the implementation of the new *PCP Act* and dependent BPC Initiative programs stem, among other things, from the unanticipated complexity of infrastructure needed to implement its transparency provisions.

Two interviewees involved with program 7 noted that the minor use elements of the program were much quicker to implement. This was due to such factors as the early involvement of stakeholders—growers, provincial and territorial ministries, and the pesticides industry—in annual priority setting meetings and the ability to model the design and operations of the AAFC Pest Management Centre (PMC) on the long-standing U.S. minor use program operated by the IR-4 Project. The risk reduction elements were slower to due to the need for AAFC and the PMRA to develop a common vision and strategy for the program elements, the need for extensive consultations and the greater-than-expected time required for start-up activities, such as staffing. The consultations involved the PMRA, AAFC, other federal government departments and external stakeholders, and were used to develop the risk reduction program framework, prioritization criteria, and identify priority crops.

**Exhibit IV-1  
Implementation status of each BPC program**

BPC Program Component	Dept./ Agency	Contribution to BPC Outputs and Outcomes	State of Implementation
<b>Programs to Strengthen the Operation and Transparency of the Regulatory System:</b>			
1. Meeting Workplace Hazardous Material Information System (WHMIS) objectives for pesticides.	PMRA	Provide safety and hazard information on pesticides	<ul style="list-style-type: none"> <li>◆ Implementation delayed, pending promulgation of new <i>PCP Act</i></li> <li>◆ Published discussion document and proposed safety regulations published in <i>Canada Gazette I</i></li> </ul>
2. Updating processes to regulate pesticide formulants.	PMRA	Implement formulants policy to improve assessment and control of formulants	<ul style="list-style-type: none"> <li>◆ Phased implementation</li> <li>◆ Three guidance documents published (DIR2004-01, REG2004-01, NOI2005-01).</li> <li>◆ <i>List of Pest Control Product Formulants and Contaminants of Health or Environmental Concern</i> published in <i>Canada Gazette II</i> (Nov. 2005). List will come into effect when new <i>PCP Act</i> comes into force.</li> <li>◆ Database almost complete; information for about 80% of formulants verified.</li> </ul>
3. Tracking adverse effects of pesticides.	PMRA	Develop formal mechanism to report adverse effects information	<ul style="list-style-type: none"> <li>◆ Implementation delayed, pending promulgation of new <i>PCP Act</i>.</li> <li>◆ Published proposed adverse effects reporting regulations in <i>Canada Gazette I</i> and established reporting system</li> </ul>
6. Consultation on and reconsideration of registration decisions, access to regulatory information, sharing confidential information.	PMRA	Increase openness and transparency of pest management regulatory system	<ul style="list-style-type: none"> <li>◆ Implementation delayed, pending promulgation of new <i>PCP Act</i>.</li> <li>◆ Published a number of discussion documents.</li> <li>◆ Proposed revisions to Regulations published in <i>Canada Gazette I</i>.</li> <li>◆ Developed processes to support requirements of new <i>PCP Act</i>.</li> </ul>
<b>Pesticide Risk Reduction and Minor Use Programs:</b>			
7. Developing and implementing commodity specific risk reduction strategies: <ul style="list-style-type: none"> <li>- Commodity-based risk reduction strategies;</li> <li>- Improving access to agricultural minor-use and reduced-risk pesticides for agricultural use;</li> <li>- Research to support the introduction of minor-use pesticides that pose a reduced risk to the environment.</li> </ul>	PMRA & AAFC	Develop commodity-base risk reduction strategies and increase access to reduced risk and minor-use pest management products	<ul style="list-style-type: none"> <li>◆ Fully implemented.</li> <li>◆ Conducted consultations with stakeholders, identified crop priorities, developed crop profiles, implementing initial commodity-specific risk reduction strategies.</li> <li>◆ Established Pest Management Centre, held priority setting workshops with stakeholders, collected data through field trials, prepared registration submissions (AAFC), reviewed submissions and registered new minor uses (PMRA).</li> <li>◆ Established research priorities and funded research projects on minor use and risk reduction.</li> </ul>



BPC Program Component	Dept./ Agency	Contribution to BPC Outputs and Outcomes	State of Implementation
8. Developing and facilitating use of reduced risk pesticides and biological pesticides for forestry.	NRCan	Develop reduced risk pesticides, biological alternatives, and integrated pest management.	<ul style="list-style-type: none"> <li>Fully implemented.</li> <li>Created Enhanced Pest Management Methods (EPMM) program and funded series of 11 research projects.</li> </ul>
<b>Research and Monitoring Programs:</b>			
4. Linking pesticide regulation and research.	PMRA	Improve coordination and cooperation between pesticide regulatory and research functions	<ul style="list-style-type: none"> <li>Fully implemented.</li> <li>Research needs identified and communicated to partners via 5NR Working Group</li> <li>Initial findings from partners' research and monitoring activities used by the PMRA for regulatory decision making.</li> </ul>
5. Accelerated and priority re-evaluation of older pesticides.	PMRA	Prevent unacceptable risk to human health and environment	<ul style="list-style-type: none"> <li>Fully implemented.</li> <li>Approximately 45% of older pesticides re-evaluated at end of FY 2004-05.</li> </ul>
9. Enhanced monitoring and enforcement of pesticide residue limits in foods and feed.	CFIA	Maintain and enhance safety of food supply in Canada	<ul style="list-style-type: none"> <li>Fully implemented.</li> <li>Analytical methods developed/enhanced.</li> <li>Monitoring activities expanded, focusing on residues in food consumed by young Canadians.</li> <li>Findings transferred to the PMRA.</li> </ul>
10. Enhanced monitoring and enforcement of pesticide residues in fertilizers and pesticide guarantee verification in fertilizer/ pesticide combinations.	CFIA	Research and Monitoring	<ul style="list-style-type: none"> <li>Fully implemented.</li> <li>Inspection staff trained.</li> <li>Monitoring activities, and numbers of samples tested, expanded.</li> </ul>
11. Monitor and research the presence and effects of pesticides in marine and freshwater ecosystems.	DFO	Research and Monitoring	<ul style="list-style-type: none"> <li>Fully implemented.</li> <li>Established Centre for Environmental Research on Pesticides and National Pesticide Research Fund.</li> <li>Initiated six regional research projects.</li> </ul>
12. Research and monitor pesticides in the forest environment.	NRCan	Research and monitor effects of pesticides in forest environment.	<ul style="list-style-type: none"> <li>Fully implemented.</li> <li>Created Enhanced Pest Management Science and Technology Program (EPMM) and funded four research projects.</li> </ul>
13. Monitor and research (the) presence and effects of pesticides in the environment.	Env. Can	Research and Monitoring	<ul style="list-style-type: none"> <li>Fully implemented</li> <li>Established Pesticide Science Fund and funded 11 research projects.</li> <li>Held workshop to share initial research results with the PMRA and 5NR departments</li> </ul>

Four of twelve BPC managers responsible for research and monitoring programs commented that the PMRA list of research needs (program 4) was large and it was initially difficult to determine how best to respond, in terms of understanding the PMRA's priorities/needs and then making the best use of the funding available. Understanding of the PMRA's needs and development of research work plans by the other departments (DFO, Environment Canada, NRCan, AAFC) has improved as the working relationships

among the various participants have developed, but continues to require close attention. PMRA's plans and priorities for re-evaluation of older pesticides are set to work in concert with the U.S. EPA's re-evaluation program which has meant that, in some instances, the timelines for research projects could not be closely integrated with timelines for the schedules for product re-evaluations. This did not delay the re-evaluation of these products but could mean that some re-evaluation decisions may have to be re-visited (using provision for a Special Review) if research findings suggest that the conditions of use for these products be modified.

BPC managers responsible for the regulatory transparency programs (programs 1, 2, 3, and 6) noted a number of implementation challenges over and above the delayed implementation of the new *PCP Act*. Three of seven BPC managers noted that implementation took slightly longer than anticipated because it took longer than expected to hire staff, coordinate with other program components, purchase equipment and other requirements for starting these programs.

A final barrier cited by two interviewees was the issue of confidentiality of business data provided to the PMRA by registrants, which is a factor in the operation of the proposed activities under program 6. As one interviewee explained, in order to deal with confidential business information, changes needed to be made to existing internal processes within the PMRA and potential registrants had to be consulted and informed of the confidentiality provisions. This process required significant consultation with industry to ensure that the PMRA was responsive to industry concerns and to increase harmonization with other jurisdictions, particularly the United States. According to documents reviewed, the program has made progress with respect to the development of Memoranda of Understanding (MOUs) with other regulators regarding provisions for the sharing of confidential information. Specifically, a MOU has been signed between the PMRA and Environment Canada that states that the PMRA will provide Environment Canada with access to confidential data provided to the Agency under the new *PCP Act*.

## **B. Partner support**

As a horizontal initiative it is anticipated that the six partner departments and agencies will work collaboratively to achieve the anticipated long-term outcomes of the BPC Initiative. Mechanisms have been implemented to provide structure to the partnerships and formalize collaborative arrangements among the partners, including MOUs, management committees and working groups.

Thirteen of the nineteen BPC managers who commented on the extent of progress made in building involvement by and support from the partners in the BPC Initiative, felt that progress had been achieved, primarily amongst the departments and agencies involved in research and monitoring, and minor use and risk reduction programs. For example, two managers noted that AAFC and the PMRA in particular have made progress in building a stronger working relationship after taking the time to identify their respective roles and build trust, and another two highlighted the development of relationships between the PMRA, DFO and Environment Canada.

An MOU between AAFC and the PMRA formalized the working relationship by outlining the general terms, roles and responsibilities for each partner with regard to the

management of program 7. The PMRA and Environment Canada established an MOU in December 2003, which describes a formal mechanism to facilitate the exchange of information and advice, and to promote strong working relationships between Environment Canada and the PMRA with respect to pest control products, pest management and related activities, focused on the conservation and protection of the environment. Work is also underway by the PMRA and CFIA to develop an agreement concerning the regulation and registration of products under both the Fertilizers Act and the new *PCP Act*, concerning processes for sample analysis and communications between the two agencies.

The Interdepartmental Working Group on Pesticides and Pest Management, better known as the 5NR Working Group, was formed in late-2001 to coordinate, promote and foster closer cooperation between federal research and regulatory departments working on pesticide and pest management issues. According to BPC managers interviewed, the 5NR is the main mechanism through which consultation among BPC partners takes place. BPC managers involved with Working Group described it as a forum to share information on the progress of projects and proposed new activities, and provide a basis for identifying and understanding the research and monitoring needs of participating departments and agencies.

The documentation review found evidence of collaboration among BPC research and monitoring programs and the PMRA. Examples of this information sharing and collaboration presented to the March, 2006, meeting of the 5NR Working Group included:

- Environment Canada provided the PMRA with environment exposure, fate and effects data as part of their work to monitor and research the presence and effects of pesticides in the environment in all regions of Canada, comments and suggestions regarding proposed PMRA re-evaluation decisions, and held a workshop to share research findings with the 5NR partners.
- Fisheries and Oceans Canada provided monitoring data on water quality, feedback on 5NR research planning; data to develop an understanding of species sensitivity; research results on atrazine re-evaluation and updated information on pesticide research projects.
- Agriculture and Agri-food Canada provided data on spray drift for use in developing and refining models to calculate buffer zones.
- Natural Resources Canada provided data on canopy interception of pesticides to aid the refinement of exposure assessment models by the PMRA.

Unlike the programs that fall under the purview of the 5NR Working Group, the transparency programs (programs 1-3 and 6) do not require a high degree of involvement and cooperation among the partners in the BPC Initiative. Five BPC managers involved with these programs indicated that their programs are 'standalone' programs and do not depend on other partners or program areas within BPC. One additional interviewee from program 7 noted that the minor use and risk reduction components do not involve a lot of interactions with Environment Canada, CFIA and DFO. Although this program accounts for a significant share of the BPC Initiative's funding, some managers see it as a standalone program and have little sense of integration into the overall BPC Initiative.

The majority of the external stakeholders interviewed (12 out of 20) indicated that their contacts with, or knowledge of, the partners in the BPC Initiative were largely limited to the PMRA, AAFC and, to a lesser extent, Environment Canada and CFIA. This pattern of awareness is largely a function of the nature of the programs within the Initiative that involve the greatest degree of interaction with external stakeholders. Many of these interviewees stated that they had seen noticeable improvements in the level and quality of communications between the PMRA and AAFC.

Having said this, a number felt that communications with external stakeholders, and between the partners in the Initiative, should continue to be a priority for the PMRA and AAFC, and further improvements could be achieved. One provincial representative indicated that their impression was that, although progress has been made, they appear to ask “both growers and provincial people for essentially the same information in different formats at different times”. Three specifically mentioned that there is a need for more engagement among Environment Canada, the PMRA and AAFC. In general terms, the limited awareness among stakeholders of the departments and agencies participating in the BPC Initiative also points to a low level of awareness of the full range of steps being taken to strengthen the pesticide regulatory system and improve transparency.

## C. Conclusions

The thirteen programs that make up the BPC Initiative fall into three broad categories:

- Programs intended to strengthen the operation and transparency of the regulatory system under the new *PCP Act* (#s 1-3, 6).
- Programs focused on minor use and risk reduction products and practices (#s 7, 8).
- Programs to research and monitor environmental and health effects (#s 4, 5, 9-13).

The transparency programs are quite distinct from the remaining programs and operate as integral elements in the operations of the PMRA with minimal involvement from the other participants in the Initiative. Progress on these programs has been slower due to delays in the new *PCP Act* coming into force. However, managers of the four programs involved reported that these programs have made significant progress in developing processes and tools to enable program delivery once the new *PCP Act* comes into force.

The departments and agencies involved in the research and monitoring programs have a high degree of horizontality, in that they involve mutually complementary and inter-dependent work planning by the six participating departments and agencies. Based on our review of program documentation and analysis of key informant interviews, we conclude that these programs have progressed to the point where the information and advice generated is being used to strengthen the PMRA’s approaches to the re-evaluation of older products.

The two programs concerned with the development and implementation of commodity-based risk reduction strategies — involving the PMRA, AAFC and NRCan — have made significant progress, and are characterized by a high degree of cooperation and integration in their governance and work planning. An increasing number of submissions to register new minor uses are in preparation or under evaluation by the PMRA compared to pre-

BPC Initiative levels. In parallel, priorities for commodity-specific risk reduction strategies have been determined, based on input from stakeholders, and an initial set of such strategies has advanced to the point where adoption by interested growers is being promoted and supported. These programs also account for the majority of stakeholder consultation activities conducted to date, involving grower groups and users, the pesticide industry, other levels of government and a number of public interest groups.

Few of the BPC managers interviewed saw their program area as part of an inter-departmental horizontal initiative; in fact, few knew of the BPC Initiative by name without prompting. Virtually no external stakeholders are aware of the existence of the overall BPC Initiative, but most were aware of specific program components that their organizations interact with. This lack of awareness would appear to be a function of the lack of “branding” of the BPC Initiative and communication of the cross-government approach to strengthening pesticide regulation and transparency as a foundation for the specific program elements. The significant progress made by the programs in the BPC Initiative means that communications to external stakeholders could benefit by positioning the Initiative as a mechanism to improve the coordination of government activities related to the regulation and availability of pesticides and the benefits generated by this joint work.

It is clear from the results of the document review and key informant interviews that relationships among the partner departments and programs continue to evolve. In some cases departments and agencies are still working on establishing MOUs that will define their working relationships. Given the complexity of the Initiative, establishing clear working relationships has been, and will continue to be, important both at the operational level as well as for the reporting and accountability requirements necessary for the summative evaluation.

## V. Findings — Governance And Performance Management

### A. Basis for evaluating governance and performance management

This chapter addresses two of the three evaluation questions relating to the governance and performance management of the BPC Initiative:

- Are governance and performance management adequate to support decision-making that responds to changing needs with a consistent focus on the achievement of planned results?
- How do the governance and performance management of the BPC compare with best practices of other multi-jurisdictional efforts to improve the regulation of hazardous substances and/or change the behaviour of users?

The third question, relating to the framework for the summative evaluation, is addressed in Chapter VII, below.

Governance, as defined by the TBS Management Accountability Framework, is the expectation that *(t)he essential conditions - internal coherence, corporate discipline and alignment to outcomes - are in place for providing effective strategic direction, support to the minister and Parliament, and the delivery of results.*<sup>2</sup> In our experience, a horizontal initiative can be said to meet this expectation if the governance system has:

- Proper authorization of programs and activities; in this case, the authorization provided by Records of Decisions regarding TB Submissions.
- Clear objectives and performance expectations for the overall Initiative plus component programs.
- Understanding of these objectives by program managers and staff.
- Cooperative, coordinated and transparent management and planning processes.
- Clearly defined and agreed accountabilities of the lead and supporting organizations.
- Regular compilation and reporting of performance information—spanning activities, reach, key outputs and strategic outcomes.
- Use of performance information to facilitate planning and management across all program elements, or inter-dependent groupings of programs.
- Integration of performance reporting with the planning and performance reporting cycles of participating departments and agencies.

<sup>2</sup> Treasury Board Secretariat, *Management Accountability Framework – Leaflet*. (Accessed at: [http://www.tbs-sct.gc.ca/maf-crg/documents/leaflet-depliant/leaflet-depliant\\_e.asp](http://www.tbs-sct.gc.ca/maf-crg/documents/leaflet-depliant/leaflet-depliant_e.asp))

## B. Adequacy of governance and performance management

### 1. Adequacy of governance structures

#### a) Documents

The BPC Initiative has a decentralized management framework, with the PMRA as the lead agency and the six participating departments and agencies each individually accountable for decision making and delivery of their respective programs, and measuring, evaluating and reporting on the performance of their programs. The allocation of the BPC Initiative funding between the thirteen programs, and by extension, each of the departments and agencies, was established by Treasury Board in 2002 and has not been modified.

Governance of the BPC Initiative—in the form of strategic management oversight and coordination structures—is dispersed across three groups of programs, as summarized in Exhibit V-1 and described in the following sections.

#### ***Joint Management Committee—AAFC/PMRA commodity-specific risk reduction strategies:***

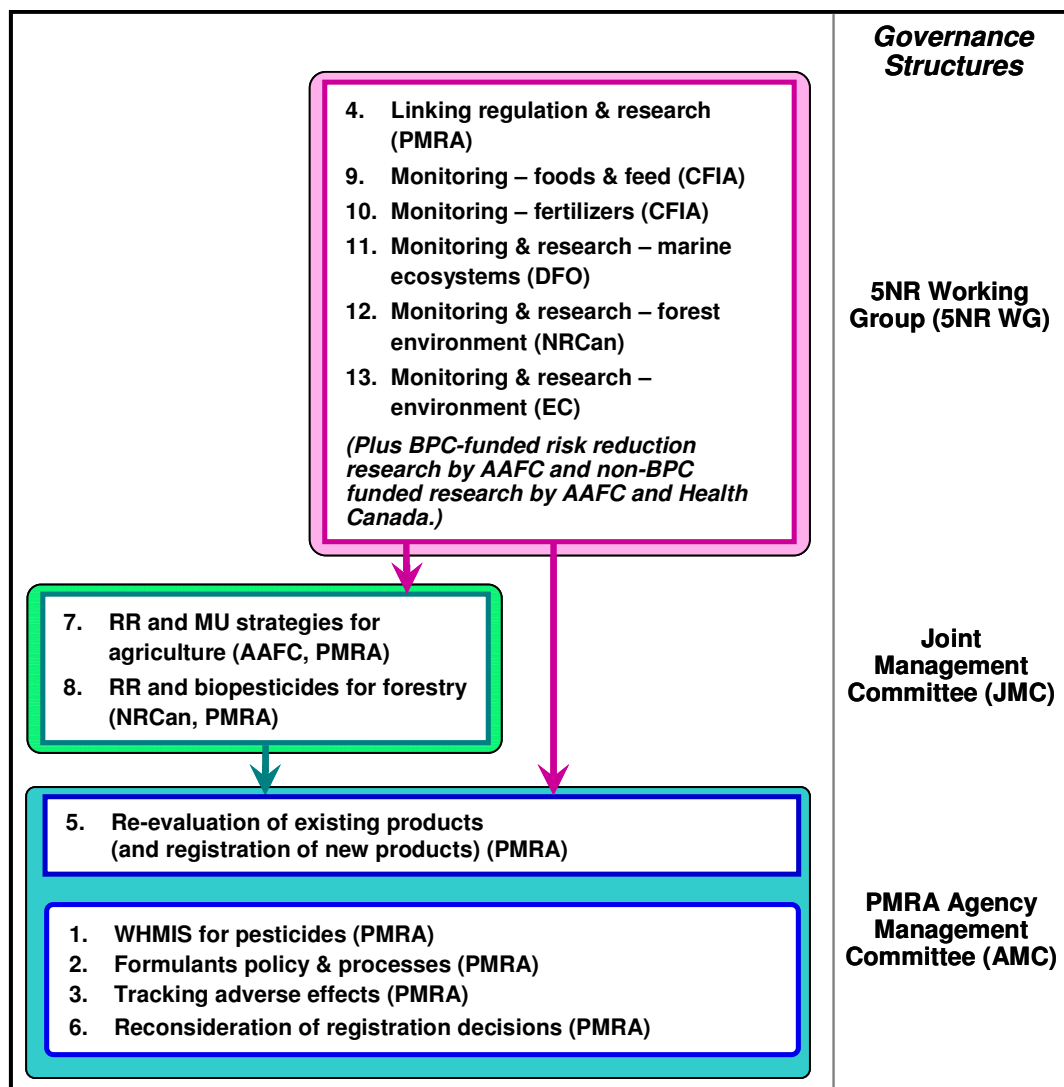
A Joint Management Committee (JMC) manages the conduct of the risk reduction and minor use program for the agricultural sector (program 7). Key roles of the JMC include review and approval of annual costed work plans, review of periodic performance reports and evaluations, provision of direction for delivery of the program, determination of needs for changes to objectives and, in the case of significant changes, recommendation of changes to the AAFC/PMRA Deputy Minister's Committee that oversees the management of the MOU. Three working groups—for risk reduction strategies, minor use and reduced risk pesticides, and research—report to the JMC. Membership of the JMC consists of the ADMs of the Farm Financial Programs and Research Branches at AAFC, the Executive Director of the PMRA and a representative of TBS who participates as an ex-officio member. The mandate for the JMC and roles of AAFC, the PMRA and TBS were defined in a December, 2003, MOU.

#### ***5NR Working Group — research and monitoring programs:***

The 5NR Working Group was formed in December 2001 with representation from the PMRA, DFO, Environment Canada, NRCan, AAFC, CFIA and Health Canada (Health Products and Food Branch, Healthy Environments and Consumer Safety Branch). Its current mandate and Terms of Reference, established in March 2004, calls for it to coordinate, promote and foster closer cooperation between the federal research and regulatory communities working on pesticides and pest management issues, and focus on identifying needs, and prioritizing and coordinating pesticide research and monitoring plans to facilitate the timely transfer of results to support decision making. The group has two co-chairs, one from the PMRA and the other rotated among the participating departments and agencies on an annual basis. The

Working Group is a self-standing committee that does not report to any senior departmental or inter-departmental committees.

**Exhibit V-1**  
**Governance structures for the BPC Initiative**



Minutes from various meetings of the 5NR Working Group (most notably, in December, 2004, and April, 2005) indicate that at least some members of the working group believe that its governance role should be strengthened. Members of the group suggested that an ADM-level committee—that would review and approve the annual work plan and performance outcomes—could provide a means of raising the profile of the pesticide programs and support for continuation of such work across the federal government. As a follow-on from this discussion, a draft briefing note for the participating departments and agencies was prepared but further action was put on hold until completion of the formative evaluation.



***PMRA’s Agency Management Committee—strengthening the operation and transparency of the regulatory system:***

The PMRA’s Agency Management Committee (AMC) provides oversight and direction for the operation of all Agency Divisions and activities, and is composed of the Executive Director and the Directors of each Division. The role of the PMRA’s Agency Management Committee (AMC) with respect to the BPC programs intended to strengthen the regulatory framework for pesticides and implement the new *PCP Act* (programs 1-3, 5 and 6) was not explicitly defined in the documentation we reviewed. However, its role is implicitly defined in the expectation that each department and agency is accountable for decision-making regarding their respective programs and program delivery. These programs are tightly integrated into the operational activities of four of the Agency’s Divisions: Alternative Strategies and Regulatory Affairs, Submission Coordination, Health Evaluation, and Re-evaluation Management.

***b) Insights from the key informant interviews***

Interviewees who were familiar with the governance mechanisms for the BPC Initiative, principally the BPC managers, noted that:

***Joint Management Committee:***

- JMC has been very effective, in that it required both the PMRA and AAFC to be transparent in their planning for, and use of, BPC funding and clarifying the respective roles.
- As the program has moved from a start-up mode to a business-as-usual mode of operation the need for input and direction from JMC has moderated. The frequency of meetings has moved from quarterly to bi-annual, and some participants are now suggesting that an annual meeting may suffice as many agenda items are now more likely to be “for information” rather than “for decision”.
- The significance of this program to both AAFC and the PMRA, scale of activities performed and resources deployed means that it has a high degree of visibility and warrants management oversight by senior AAFC and the PMRA managers. The current level of program expenditure is approximately \$8 million and \$10 million per year for the PMRA and AAFC, respectively, plus additional funding for AAFC research activity funded by the Research Branch, which is much more significant than the annual expenditures on the research and monitoring programs of the other BPC departments and agencies.
- It was suggested by two BPC managers that the initial rate of progress and collaboration of the JMC working groups was hampered by the fact that the PMRA members were often not able to commit to proposed courses of action without getting approval from the PMRA’s AMC. They also indicated that this was no longer the case and the working groups are functioning effectively.

### ***5NR Working Group:***

- Programs that provide the focus for the 5NR Working Group are relatively small—less than \$1 million per year per program—and the group mostly focuses on sharing information on work plans, projects in process, and results to date.
- Each of the departments and agencies involved in the 5NR initially appeared to develop independent work plans that responded to the PMRA’s research needs and priorities. Over time, areas of mutual interest and inter-dependence have emerged and the participating departments and agencies have started to work more closely together on project planning and conduct.
- Opportunities exist to further develop this more integrated approach to planning and direction setting. As part of this, the departments conducting research and monitoring projects, such as DFO, NRCan, and Environment, also want to see how the information they provide to the PMRA is used and the value of such information, that is, does it really make a difference or is it just “nice to know”. (Comments provided during our interviews suggest that research findings have been used to good effect in the PMRA re-evaluation work and comments on proposed decisions by the other 5NR departments and agencies were used to refine final re-evaluation decisions.)
- The need for the 5NR Working Group to be accountable to a “higher level” Director-General or ADM-level management committee was flagged by a number of the participating BPC managers. Supporters of this idea felt the involvement of senior managers from the participating departments and agencies would strengthen the profile of their research and monitoring programs, build awareness and support for their contribution to the pesticide regulatory system, and contribute to the setting of overarching directions and building the case for future renewal and/or expansion of the mix of activities. Not all interviewees supported this proposal, however. Supporters of the contrary view feel that the present structure and role of the group is working well and that the small scale of each of the individual programs means that it would be hard to get the attention of their senior decision makers. This debate among BPC partners is an indication that the Initiative is evolving and governance structures are being adapted to reflect this evolution.

### ***PMRA’s Agency Management Committee:***

- Managers and staff of each of the various BPC Initiative programs concerned with the implementation of the new *PCP Act* and mechanisms to increase regulatory transparency were more likely to see these programs as core PMRA activities rather than elements of the BPC Initiative. This is not surprising as management oversight is provided by the Agency Management Committee, the activities undertaken are embedded within the operations of various Divisions and do not involve any significant contact with the other departments and agencies participating in the BPC Initiative.

- The transparency programs are important to the way the Agency will operate in the future and, as such, are closely managed and monitored by divisional managers and AMC.

The majority of the external stakeholders asked about their views on the governance of the BPC Initiative (representatives of 14 out of 16 organizations) indicated that they were not familiar with the governance structures in place. A number of the interviewees (four) who were also members of the PMRA Pest Management Advisory Council (PMAC) or familiar with its operations suggested that PMAC provides an effective forum for communicating with key stakeholders and could be used to increase awareness and understanding of the goals and performance of the overall BPC Initiative.

## **2. Adequacy of performance management to support decision making**

### ***a) Documents***

Formal performance reporting requirements for the BPC Initiative operate along two dimensions, drawing on common performance measures and data:

- Reporting on BPC performance by each of the six participating departments and agencies through their respective departmental reporting processes.
- An annual report on activities, outputs and progress on expected outcomes for all thirteen programs. As lead agency, the PMRA was to coordinate the production of this report and its submission to TBS for publication on the TBS Horizontal Initiatives website.

In practice, the annual horizontal results performance reports provided to TBS for listing on the Horizontal Initiatives website provide performance information on a sub-set of the BPC programs, relating to:

- Research and monitoring programs that fall under the ambit of the 5NR Working Group plus research work in support of the AAFC, PMRA and NRCAN risk reduction and minor use programs (program 4 and program 7-13).
- Development and implementation of commodity-specific risk reduction strategies and improving access to minor use and reduced risk products by AAFC, PMRA and NRCAN (program 7 and 8).

Information relating to the performance of the re-evaluation program (program 5) and the regulatory transparency programs (programs 1-3 and 6) was published in the first PMRA annual report (for 2003-04), and we understand that future annual reports will continue to report on the performance of these programs. The annual report also contains summary performance information concerning other program elements of the BPC Initiative albeit without any specific reference to the BPC Initiative itself. In this regard, the structure and information presented in the annual report reflects the structure of the PMRA Program Activity Architecture (PAA) and BPC Initiative logic model.

Information contained within the various performance reports prepared to date has largely been concerned with progress in establishing the various programs, generation of initial outputs and, to a much lesser extent, achievement of outcomes. Exhibit V-2 summarizes

our assessment of the extent to which current performance reporting (Horizontal Results reports and the PMRA Annual Report) relates to the immediate outcomes expected from the BPC Initiative.

**Exhibit V-2**  
**Assessment of current performance reporting against immediate outcomes**

Immediate Outcomes	Coverage in Current Reporting	Data/Reporting Considerations
1. <i>Increased knowledge by the PMRA about pesticides and alternatives</i>	<ul style="list-style-type: none"> <li>▪ Status of current research projects.</li> <li>▪ Examples of ways in which initial findings used by the PMRA reported in 5NR WG presentations.</li> </ul>	<ul style="list-style-type: none"> <li>▫ Non-standard outputs (i.e., counting provides no value.)</li> <li>▫ Evidence of extent to which the PMRA research needs are met and findings used would be beneficial.</li> </ul>
2. <i>Registration of reduced risk and minor use pesticides</i>	<ul style="list-style-type: none"> <li>▪ Annual data on new minor use and reduced risk registrations.</li> <li>▪ No public data currently available on volume/significance of use.</li> </ul>	<ul style="list-style-type: none"> <li>▫ Trend data showing pre/post comparisons would provide additional insight.</li> <li>▫ Future collection of sales data may provide insights into relative significance of these products.</li> </ul>
3. <i>Removal of pesticides and uses of higher risks</i>	<ul style="list-style-type: none"> <li>▪ Annual data on re-evaluation outcomes published by the PMRA – active ingredients (AIs) discontinued by registrant, phase out requested, approved with label modifications, and approved without modification.</li> <li>▪ No public data currently available on overall significance/trends in use of these products.</li> </ul>	<ul style="list-style-type: none"> <li>▫ Trend data on progress against re-evaluation program targets would provide additional meaning.</li> <li>▫ Future collection of sales data may provide insights into relative significance of these products.</li> </ul>
4. <i>Compliance for safer food, feed and fertilizer-pesticide combinations</i>	<ul style="list-style-type: none"> <li>▪ Data on monitoring rates and outcomes from analyses of Maximum Residue Limits (MRLs) and product verifications.</li> <li>▪ No information reported on how findings are used to facilitate the PMRA's work.</li> </ul>	<ul style="list-style-type: none"> <li>▫ Trend data showing pre/post comparisons would provide additional insight.</li> </ul>
5. <i>Access to safer pest management practices and products</i>	<ul style="list-style-type: none"> <li>▪ Data on numbers of strategies developed and in-process.</li> <li>▪ No data currently available on adoption rates and relative significance (e.g., share of production).</li> </ul>	<ul style="list-style-type: none"> <li>▫ Fieldwork on first crop protection survey in process.</li> <li>▫ Work on development of a pesticide risk indicator underway.</li> </ul>
6. <i>Better informed public and stakeholders</i>	<ul style="list-style-type: none"> <li>▪ No data reported on whether the public is "better informed".</li> <li>▪ Stakeholder consultation occurs (primarily in relation to risk reduction programs) but participation rates and changes in understanding are not tracked.</li> </ul>	<ul style="list-style-type: none"> <li>▫ BPC Initiative does not include any activities that proactively communicate with the public. Changes in public awareness may not be attributed to the Initiative.</li> <li>▫ Data on rates, and nature, of public and stakeholder participation can be tracked after new <i>PCP Act</i> comes into force.</li> </ul>
7. <i>Increased public participation</i>	<ul style="list-style-type: none"> <li>▪ No changes expected until new <i>PCP Act</i> comes into force.</li> <li>▪ No baseline data reported.</li> </ul>	<ul style="list-style-type: none"> <li>▫ Pre/post reporting of participation rates related to BPC transparency programs will be useful once new <i>PCP Act</i> implemented.</li> </ul>

Source: KPMG analysis of content of BPC Initiative performance reports and the PMRA Annual Report for 2003-04.

Selection of performance indicators and collection of performance measurement data, relating to outcomes and impacts appears, at this stage, to be a work in progress. Equally, the ability of program managers to provide evidence of the achievement of immediate and intermediate outcomes is, for the most part, limited given the medium-to-long term nature of most BPC projects.

***b) Key informant interviews***

Two aspects of the performance management of the BPC Initiative were commented on by interviewees, primarily by the BPC managers: the adequacy of performance monitoring and information sharing to aid program planning and direction setting, and performance reporting.

Key themes in the managers' comments varied, depending on whether they were involved with the 5NR group of programs, the minor use and risk reduction programs, or the programs under PMRA management. Most of the 5NR managers who commented on the adequacy of performance monitoring felt that initially the PMRA provided a list of its research and monitoring priorities and each department and agency then developed their own work plans and projects without a lot of discussion or joint development and refinement of priorities and projects. Over time, the approach has progressed to the point where the departments and agencies are starting to engage in more information sharing and joint development and conduct of projects.

Some of the departments and agencies conducting research, such as Environment and DFO, indicated that they would like to see a greater degree of prioritization in the PMRA research needs so that the limited resources available for research work can be best allocated. Differences in timing have also been a source of concern for all; the PMRA's re-evaluation priorities are largely driven by the U.S. EPA's re-registration program and it is difficult to match or integrate these time periods with the time periods required to conduct research projects, which typically have an elapsed time of about two to three years.

Another factor in the evolution of the performance management system for the 5NR programs has been the wish of the research and monitoring departments and agencies to see how their findings are used in the PMRA's work and the difference this knowledge makes. PMRA is sensitive to this concern and now that many of the initial research and monitoring projects are generating findings, the PMRA is better placed to communicate how the new knowledge is used, and has established a process to record the nature of interactions in this regard and uses of research and monitoring information.

Performance management for the BPC transparency programs is markedly different from the more horizontal approaches in place for the research and monitoring, and minor use and risk reduction programs. The managers of these programs indicated that their performance measurement and reporting is driven by the requirements of the PMRA's annual reporting and the Health Canada requirements for the Departmental Performance Report (DPR). Most of these managers had only a limited familiarity with the BPC Initiative and presumed that the performance reporting requirements would be essentially the same as the requirements for the annual report and DPR. They also highlighted the fact that their programs are concerned with changes to enable a higher degree of

regulatory transparency but are yet to be implemented. As a result, their performance reporting provides information on the rate of development and is not yet in a position to report on final outputs or outcomes.

Performance monitoring and information sharing is well-developed for activities performed by the minor use and risk reduction program. Information is shared and joint planning undertaken at regular meetings of the three working groups for this program (minor use, risk reduction, research) as well as the biannual JMC meetings. This program also undertakes an extensive amount of stakeholder consultation work, which requires AAFC and the PMRA to share information and develop consistent, complementary approaches to their respective roles.

The PMRA and AAFC have also spent a considerable amount of time working on the selection and specification of a suite of output and outcome performance indicators for the program. As was noted in the documents review section, above, much of the focus to date in this work has been on the selection of output measures. In some areas, significant progress has been made on the development of ways to collect data on the use of pesticides and integrated pest management practices for selected commodities. This work has progressed to the point where Statistics Canada has commenced fieldwork for the first Crop Protection Survey on behalf of the Pest Management Centre. This survey will provide baseline data for agri-environmental indicators in the National Agri-environmental Health Analysis and Reporting Program (NAHARP) and guidelines developed with Environment Canada under the National Agri-Environmental Standards Initiative (NAESI), and will link to AAFC's Farm Environmental Management Survey (FEMS). Work is also underway on the development of a pesticide risk indicator by the Pesticide Risk Indicator Working Group (PRIWG), to measure trends in pesticide risk reduction.

A major challenge for the performance reporting for minor use and risk reduction activities (in common with the BPC research and monitoring programs) is the time before outcomes—in the form of changes in pesticide usage patterns and adoption of risk reduction strategies among growers—will be apparent. In this regard, for example, development and validation of commodity-specific pest management strategies, which by themselves are an outcome from several years of work, represent only the starting point for gaining adoption and use by growers.

## C. Comparisons to best practices elsewhere

The findings from our literature review suggest a number of general guiding principles and success factors for the governance of horizontal initiatives in government. Highlights from the key documents are summarized in this section.

### **1. Office of the Auditor General (OAG): Managing Horizontal Initiatives (2005)**

The OAG's 2005 report, *Managing Horizontal Initiatives*, examined a number of horizontal initiatives to assess how effectively these initiatives were managed and coordinated. According to the report, governance issues are critical. The social return on

the resources devoted to these programs is a function of the effectiveness of the governance and decision-making processes that are put in place.

Effective implementation and management of these initiatives depends on the development of new horizontal decision-making processes within the overall framework of the responsibilities of each of the participating departments. In the absence of effective measures of this kind, the OAG report indicates that overlap, duplication and the inefficient use of resources are more likely outcomes.

The OAG report also found that, in spite of substantial efforts and some successes, there is still no consistent federal government approach to the operation and governance of horizontal initiatives. Although progress, in the form of Results-based Management and Accountability Frameworks for such initiatives is noted, the OAG argues that central agencies have not yet provided sufficient guidance on the circumstances requiring horizontal initiatives, the types of governance required and appropriate accountability mechanisms. The report also found that most reporting and evaluation efforts focussed on individual department programs within the horizontal initiatives with much less reporting from a horizontal perspective.

## **2. Bakvis and Juillet: The Horizontal Challenge – Line Departments, Central Agencies and Leadership (2004)**

Work conducted by Bakvis and Juillet for the Canada School of Public Service in 2004 investigated issues influencing and determining the capacity of existing organizational structures and departmental cultures to work together to deal with horizontal policy issues. Their findings included:

- Even in an area of shared responsibility and governance the role of project champion remains critical.
- Managers require different skill sets when working horizontally in situations where vertical authority relationships do not hold. This is a human resource constraint associated with horizontal issues. Seeking out persons with “horizontal skills” and providing more training appears necessary but this is frequently not done.
- In a number of cases central agencies failed to play a consistent supportive role. The policy perspective of these agencies (TBS and PCO) often fails to reflect or respond effectively to pressures related to differences among departmental partners.
- Partners in these initiatives felt that their central responsibility was to complete their own component tasks without a view as to how this related to overall success.

Bakvis and Juillet concluded that better management mechanisms are necessary for horizontal initiatives particularly because such programs are likely to become more common. The current accountability arrangements were described as “awkward” in that they involve a combination of “departmental and corporate” requirements and are weakly linked to incentive structures.

### **3. Fitzpatrick: Horizontal Management – Trends in Governance and Accountability (2000)**

Fitzpatrick's 2000 paper for the Canadian Centre for Management Development assessed the governance and accountability aspects of "partnership" or horizontal initiatives. In terms of procedures to make these initiatives work well in a federal context, the emphasis is placed on clarity of horizontal responsibilities and the necessity for a detailed RMAF. Importantly, emphasis is also placed on adapting how horizontal arrangements are operated over time with corresponding changes in the accountability framework as more experience is accumulated with the initiative.

### **4. Peters: Managing Horizontal Government – The Politics of Coordination (1998)**

In a report prepared for the Canadian Centre for Management Development, Peters contrasted the experience in Canada with the United Kingdom and Australia. Peters asserted that concerns about horizontal issues are not new; they have existed ever since "stovepipe" vertical managing structures were developed, and have been exacerbated by both the growth of government and by the increasing complexity of the issues faced.

The assertion in this work is that efforts to produce horizontal structures often fail to provide the correct incentives to change behaviour because the incentive structures remain vertical. Peters suggested that more diverse departments (non-competing for turf) often manage horizontal projects more effectively than do departments with common and competing interests. This perspective also suggests that horizontal initiatives that provide benefits for all participating departments will be easier to manage than those in which horizontal management reduces the roles of some departments while increasing the influence of others.

### **5. Privy Council Office (PCO): Managing Horizontal Policy Issues (1996)**

In the mid-90s, the PCO established a task force to examine issues associated with managing horizontal policy issues. Key findings from the Task Force's work included:

- Organizations in horizontal initiatives remain at least somewhat competitive and this is reflected in the process of issue and responsibility definition.
- Lead and participating agencies require clear accountability measures that specify responsibilities, particularly in terms of the leadership role. There is a requirement for balance here between shared responsibility and ultimate accountability.
- Central agencies are important vehicles for ensuring that overall government priorities versus individual department priorities are pursued.
- The time requirements of effective consultation and coordination mean that required timeframes for horizontal initiatives will likely be longer.



## D. Conclusions

### 1. Adequacy of governance and performance management to support decision-making

The BPC Initiative is not so much a single horizontal initiative that focuses the efforts of six federal departments and agencies on the achievement of a single set of objectives as a set of three distinct initiatives with varying degrees of inter-dependence and “horizontality”. The three distinct areas of focus are concerned with: research monitoring of pesticide impacts; increasing the availability and use of risk reduction strategies and minor use products; and, strengthening the transparency of the pesticide regulatory system. Our review of the TB Submission for the Initiative suggests that this structure was anticipated by the Initiative’s designers and reflected in the governance structure.

PMRA is the lead Agency for the BPC Initiative, responsible for coordinating the preparation of annual reports on activities, outputs and outcomes. Governance and direction is provided by the: 5NR Working Group for the research and monitoring programs, a Joint Management Committee for the AAFC and PMRA commodity risk reduction program, and the PMRA Management Committee for the programs to re-evaluate older pesticides and to increase regulatory transparency and public participation. Key informants, particularly program managers from the participating departments and agencies supported this structure over the use of a single overriding governance structure due to the disparate roles and areas of focus within the Initiative.

This governance structure appears to be effective in supporting decision-making that responds to changing needs while maintaining a consistent focus on the achievement of planned results. Operation of the governance and performance management structures is characterized by:

- Each of the thirteen BPC programs have clear objectives and expected outcomes that clearly align with the target outcomes for each of the three areas of focus.
- Implementation of the thirteen BPC programs has proceeded largely as anticipated, albeit with some slippage in the coming into force of the new *PCP Act* and related transparency programs, and there has been no need to make changes in response to changing needs or unanticipated gaps.
- Cooperative and coordinated management and planning processes are in place for the AAFC-PMRA commodity risk reduction program (and the NRCAN program element by extension). Coordinated management and planning for the research and monitoring programs is evolving as the participating departments develop their understanding of each others’ programs and capabilities, and see how information and advice is used by the PMRA. Planning for the transparency programs is driven by the PMRA planning processes and operations, and these programs are integrated into the Agency without strong links to the other BPC programs.
- The 5NR Working Group has functioned effectively at an operational level, with each of the partners focusing on the design and implementation of their respective research projects and, more recently, sharing of research results. We believe that

the need for more strategic management role will increase as the current research and monitoring projects are finalized and findings are applied by the PMRA, and questions arise regarding future research priorities. Input and guidance from a DG or ADM-level committee would likely be of benefit in developing consensus around these questions.

The most pressing area of weakness in the delivery of the Initiative is that of performance reporting on the achievement of immediate and intermediate outcomes, where the participating departments and agencies are still grappling with how best to measure and report on progress. The ability of departments and agencies to collect outcome information for their programs is complicated by the long time frames before many of the BPC programs can demonstrate results. However, the Initiative is now at a point where decisions regarding the selection of outcome measures are needed, and actions taken to ensure the required data is available for longer-term planning for the Initiative and input to the summative evaluation.

## **2. Performance compared to governance practices for other horizontal initiatives**

Findings from the literature review indicate that the experience with the establishment and management of the BPC Initiative has much in common with the experiences from other horizontal initiatives. In particular, the clearly defined accountabilities of the lead agency (PMRA) and clear objectives for each program indicate that the Initiative has been successful at accomplishing an important best practice for managing horizontal initiatives. Also, the Initiative has coordinated management and planning processes in place to support work across the vertical authority structures of Initiative programs. That said we see the most important lesson for the Initiative in these findings being the need for participating organizations to see their roles in terms of the achievement of horizontal objectives to which their work contributes rather than the simple execution of their separate component tasks.

## VI. Findings — Design

### A. Introduction

This chapter of our report provides the evaluation findings related to the following evaluation questions on the design of the BPC Initiative:

- Is the BPC Initiative, as designed, the appropriate mechanism for achieving longer-term outcomes? Is it reaching the intended target populations?
- To what extent have immediate outcomes been achieved?

To answer these two questions we have reviewed the design of the BPC Initiative, considered adjustments that could improve progress toward planned outcomes, and assessed available evidence of progress towards planned outcomes.

### B. Appropriateness of design

As previously noted and described, the diversity of the BPC Initiative is such that the design, delivery and outcomes vary across each of the three groupings of the thirteen programs. This is summarized in Exhibit VI-1.

#### Exhibit VI-1 Design summary

Program	Design
<b><i>Strengthening the Operation and Transparency of the Regulatory System</i></b>	
1. Meeting WHMIS objectives for pesticides	Provide safety and hazard information to increase workplace safety.
2. Updating processes to regulate pesticide formulants	Review data, regulate, reduce risks.
3. Tracking adverse effects of pesticides	Develop database, follow-up with regulatory action when problems emerge.
6. Consultation on and reconsideration of registration decisions, access to regulatory information, sharing confidential information	Improve process, data access, establish electronic access and reading rooms.
<b><i>Pesticide Risk Reduction and Minor Use Programs</i></b>	
7. Developing and implementing commodity specific risk reduction strategies	Research, develop crop-specific strategies, and establish Pest Management Centre. Fast track registration for reduced risk approaches.
8. Developing and facilitating use of reduced risk pesticides and biological pesticides for forestry	Develop biological alternatives, integrated pest management.

Program	Design
<b><i>Research and Monitoring Related to the Effects of Pesticides on Health and the Environment</i></b>	
4. Linking pesticide regulation and research	Improve scientific basis of regulatory decisions, reduce risks.
5. Accelerated and priority re-evaluation of older pesticides	Focus on food, residential settings, maximum residue limits and pursue problem cases identified by EPA.
9. Enhanced monitoring and enforcement of pesticide residue limits in foods and feed	More sampling, testing and enforcement. Focus on dietary patterns of children.
10. Enhanced monitoring and enforcement of pesticide residue limits in fertilizers and pesticide guarantee verification in fertilizer-pesticide combinations	Surveillance, sampling, increase inspections.
11. Monitor and research the presence and effects of pesticides in marine and freshwater ecosystems	Pesticide research unit to monitor and provide results to the PMRA
12. Research and monitor pesticides in the forest environment	Spray drift assessment, determine impacts, provide regulatory input.
13. Monitor and research pesticides and the effects of pesticides in the environment	Identify pesticide environmental damage, provide regulatory input.

As Exhibit VI-1 indicates, the BPC Initiative comprises a substantial set of activities. There is, in other words, no single design that can be assessed in terms of likely effectiveness. Our assessment of the face validity of the design is based on evidence drawn from the document and literature reviews and from the results of the interviews with key informants.

### **1. Reaching intended population**

This section reviews the extent to which the BPC Initiative has been able to reach the intended target populations. In doing so it is important to note that the targeting of the Initiative is at two levels:

- Primary, or direct, targets for each of the three groupings of programs:
  - ***Research and monitoring programs:*** PMRA regulatory personnel responsible for the product re-evaluation, research programs of the departments/agencies participating in the 5NR Working Group, and the pesticides industry.
  - ***Minor use and risk reduction programs:*** grower groups and growers in the agriculture and forestry sectors, users of pesticide products, pesticides industry, and other levels of government.
  - ***Regulatory strengthening and transparency programs:*** users of pesticide products, public health and medical communities, pesticides industry, interested members of the public, and public interest groups.

- Indirectly, all Canadians, which reflects the Initiative's focus on improving opportunities for public and stakeholder participation in regulatory decision making without undertaking proactive outreach activities to increase public understanding of the regulatory system.

**a) Documented information on public awareness and confidence**

The documentation reviewed provided contextual information on public perceptions regarding pesticide safety rather than specific information on awareness of any BPC program activities or measurement of changes due to the impacts of such activities. Various public opinion studies prepared for Health Canada suggest that many Canadians are concerned about the possible risks posed by pesticides to their health:

- Among Canadians who felt that their food was either “unsafe” or “neither safe nor unsafe”, 53% identified pesticides as the greatest concern.<sup>3</sup>
- 43% of Canadians say it is “very” (17%) or “somewhat likely” (26%) they will develop health problems due to pesticides.<sup>4</sup>
- A slim majority of Canadians (52%) agree that pesticides can be used safely if used according to label directions while slightly fewer (45%) believe that pesticides are unsafe even if used according to the label directions. Respondents felt that the safe use of pesticides could be improved by such measures as:
  - Including more information on labels regarding health and environmental risks (supported by 87% of respondents).
  - Clearer product label instructions (86%).
  - More information on how the Government of Canada ensures pesticide safety (79%).
  - More restrictions on pesticide use (78%).
  - Periodically reviewing older pesticides to ensure they are safe (76%).
  - More information about pesticides from the Government of Canada (76%), such as whether pesticides are safe, possible health effects, and whether they harm the environment.<sup>5</sup>
- Respondents in this survey also rated the relative credibility of different professionals in terms of their abilities to speak about pesticides. Most likely to be rated as being “very credible” were university professors in environmental (57% of respondents) and health sciences (56%), medical officers of health (48%) and Health Canada scientists (46%).

These surveys were not designed to test for the awareness or impacts of various BPC activities and, as such, do not measure the ability of the BPC Initiative to reach and

<sup>3</sup> *Public Opinion Research Paper: Food Safety Issues*, Health Canada, May 2004, p.8.

<sup>4</sup> IBM Health Insider No. 13, *Public Opinion Syndicated Research Summary*, Health Canada, September 2005, p. 8.

<sup>5</sup> *Public Views on Pesticides*, Ipsos-Reid Corporation, Submitted to Health Canada, August 2004, p. 8.

influence the Canadian public. However, these findings do point to the prevalence of public concerns about possible pesticide risks.

***b) Key informants' views on reach***

Few of the managers of BPC Initiative programs felt sufficiently informed to comment on whether the Initiative, as currently designed, is able to reach and influence all target stakeholders identified in the logic model for the Initiative and program documentation. At best, they were able to comment on the reach of their particular programs among those stakeholders that were most directly involved or interested in their program outputs. Three of the five BPC managers who did comment on the general reach of the Initiative believe that it will ultimately be able to reach and influence Canadians and stakeholders in the agricultural sector, in particular. Another interviewee suggested that transparency and reach was increasing, as evidenced by the fact that a recent proposed re-evaluation decision received an unusually large response of over 600 comments from individuals and organizations. (It should be noted however, that this was for a particularly high profile pesticide and the PMRA had sought to publicize the proposed decision more so than is usually the case.)

The remaining two BPC managers who responded to this question felt that the BPC Initiative cannot reach and influence all targeted populations directly. One of these managers noted that the Initiative cannot be expected to influence the forestry sector directly since operational decisions as to which reduced risk products to use rests with the provincial governments as forests are under provincial jurisdiction. The other BPC manager suggested that, the Canadian public is not directly targeted by the BPC programs and should not be considered in the same way as various other, more narrowly defined, stakeholders that are specifically targeted by various BPC programs. Other BPC managers expressed somewhat similar concerns about the extent to which the Initiative is reaching (or can reach) such broadly defined groups as the Canadian public.

Stakeholders who provided comments on the reach of the BPC Initiative frequently expressed concerns about its effectiveness in reaching and influencing the Canadian public (representatives from six organizations) or commented that the program elements are not designed to disseminate information and inform the public about pesticide regulation (two organizations). Similar comments were expressed by some about a lack of reach to members of the public health community (four organizations). For example, two provincial interviewees suggested that neither the Canadian public nor the public health community fully understands the rigour with which the Canadian pesticide regulatory system reviews these products. Interviewees also suggested that reach was better among agricultural stakeholders and efforts to reach pesticide workers should be undertaken in conjunction with provincial/territorial ministries that are more directly involved in the oversight of occupational health and safety.

**2. Design issues and objectives**

***a) Literature perspectives on the determinants of public confidence***

The issue of public confidence extends to many areas of risk regulation and includes public confidence or trust in science as it is communicated to the public. However, it is

important to understand that concerns about risk regulation, including pesticide risk regulation are not unique to Canada.

In this regard, Lofstedt argues that a decline in public trust is a result of a number of well-publicized cases of regulatory failure. Lofstedt notes the important declines in public trust in a framework in which he asserts that “public trust is one of the most important explanatory variables of the public’s perception of risk”. His research indicates that public trust will be promoted by greater inclusiveness, particularly at the interface between scientific data on risk and the development of regulatory approaches to manage risk and more open and transparent regulatory measures with more accountability for regulators. We can infer from this work that public trust that is not directly observable will be increased if the regulatory system is changed to include more “trust-creating” features.<sup>6</sup>

The literature in this area highlights a number of issues that contributed to an environment in which there was a widespread lack of confidence in government risk regulation in many countries. In the United Kingdom, for example, the emergence of and the regulatory response to Bovine Spongiform Encephalopathy (BSE) or mad cow disease has been viewed as a critical event in eroding public confidence in risk regulators. The core elements of public mistrust in the U.K. resulting from the BSE crisis appeared to result from regulators giving too much influence to the agriculture sector and not providing citizens with all the information that they had. The lack of openness was a major factor in reducing public trust in regulators.

In fact, the report of the House of Lords Science and Society Select Committee described the post-BSE situation in the U.K., as one in which there was a “crisis of confidence”. The key elements in the House of Lords report related to public attitudes toward science and risk are as follows:

- Science and potential scientific advances continue to be of great interest to members of the public but public confidence about the quality of scientific advice provided to government appears to have been lowered.
- There is a perception that members of the public question their governments on many issues not just risk regulation.
- “Science information” that is provided directly by governments to the public is no longer regarded as independent. Other information sources such as independent academics are regarded as less biased.
- In the area of science policy, “institutional secrecy” is described as an important source of the reduced public trust in government science-related information.

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<sup>6</sup> Lofstedt, R., *How Can Better Risk Management Lead to Greater Public Trust in Canadian Institutions: Some Sobering Lessons from Europe*, paper prepared for the Privy Council Office as part of the Smart Regulation Initiative, Ottawa, 2003. (Accessed at: <http://www.pco-bcp.gc.ca/smartreg-regint/en/06/01/su-07.html>.)

- “What the public finds acceptable often fails to correspond with the objective risks as understood by science. This may relate to the degree to which individuals feel in control and able to make their own choices.”<sup>7</sup>

This perspective in the House of Lords report characterizes much of the literature in this area. “Objective” or expert assessments of risk often deviate from apparent public perceptions and may do so by very substantial amounts. In general, the literature suggests that the public appears to under-estimate risks associated with unregulated personal choices and to over-estimate risks associated with activities that are regulated by government. Developing effective pesticide policies is particularly challenging in a context in which there may be a discrepancy between the judgment of experts on pesticide risks and the judgment of consumers.

A further challenge highlighted in the BSE report is the treatment of scientific uncertainty by government risk regulators. Regulatory decisions are generally made in the context of some uncertainty. Standards of “beyond reasonable doubt” imply some subjectivity. In many such decisions, policy-makers may be faced with disagreements among experts and it is necessary in this situation to make the extent of the uncertainty clear to the public.

The Science Advisory Group to the U.K. Department of Environment, Food and Rural Affairs (DEFRA) saw the response to the public mistrust of government risk regulation as one of “rebuilding” public confidence. The DEFRA report focuses on communicating risk information but also deals with other elements of the issue of risk management. The approach that was employed in the U.K. up to and including the BSE issue is described as being “a pedagogic one-way communication approach”. With regard to the same issue, the House of Lords argued that regaining public confidence required regulators to “change existing institutional terms of reference and procedures to open them up to more substantial influence and effective inputs from diverse groups”. DEFRA’s Science Advisory Group summarized the serious challenge involved in rebuilding lost public confidence or trust as: “no organization within government or science has a track record of re-building public confidence, so any actions taken must be with a spirit of pioneering and innovation”.<sup>8</sup>

The DEFRA report provides a broader perspective on the importance of public confidence that goes beyond the BSE focus of its work and also goes beyond the pesticide perspective of the BPC Initiative. Beyond specific regulatory policies, the DEFRA report argues that lower levels of public trust and confidence in government institutions lead to:

- Lower levels of compliance with regulations in general. This makes enforcement more difficult and costly.
- More scepticism about public sector effectiveness.

<sup>7</sup> House of Lords Science and Technology Select Committee (2000), *Science and Society*, Report to the U.K. Parliament, London. (Accessed at: [www.publications.parliament.uk/pa/ld199900/ldselect/ldstech/38/3802.htm](http://www.publications.parliament.uk/pa/ld199900/ldselect/ldstech/38/3802.htm)).

<sup>8</sup> Department of the Environment, Food and Rural Affairs (2003), *Rebuilding Public Confidence in DEFRA Science: DEFRA’S Science Communication Strategy*, London, DEFRA Science Advisory Group, p.2. (Accessed at: [www.defra.gov.uk/science/documents/sag/SAG\\_17.pdf](http://www.defra.gov.uk/science/documents/sag/SAG_17.pdf))



- More scepticism about information provided by government, particularly when the information is science-related.

The DEFRA approach to re-building public confidence has a number of features. The report notes that the approach proposed by the Science Advisory Group may not be the only relevant and effective approach to managing this issue, and that a challenge of this type cannot be dealt with solely by outreach campaigns to the public. At a time of reduced public confidence, more information from a source in which there is reduced confidence may in fact be counter-productive. Instead, a process of institutional change is required, followed by more effective communications strategies. However, the key point is that success is unlikely if the issue is perceived solely as one of improved communication.

The Science Advisory Group to DEFRA developed eight guiding principles in answer to the question: “How can we build public confidence in DEFRA science?” These principles are:

- A commitment to change throughout the entire organization.
- Develop the core value of protecting the public.
- Develop a more open and two-way communication channel with the public.
- A commitment to public access to regulatory information at all stages of the decision and review process. The DEFRA website is suggested as the vehicle for this type of openness.
- Show that new regulatory approaches have been developed as a response to “problems of the past”.
- Acknowledge uncertainty in risk assessment.
- Meet and review actions with critics.
- Independent corroboration; use more outside peer review.

These principles have much in common with the rationale for, and approach to, the design of the BPC Initiative. The conclusion to the DEFRA work emphasizes again that any public confidence initiative must have a long-term perspective and must effect institutional change. “Quick fix” approaches are as likely to exacerbate the problem.

Similar approaches are provided in the U.K. Government’s *Response to the Report of the BSE Enquiry* (2002). This report deals with the way that government obtains scientific advice and how this advice is used in making risk-related policy decisions. The practices that were recommended, in terms of scientific information included:

- Early identification of potential problem areas.
- Acquisition of advice from a variety of sources with more sources being used for areas of greater scientific uncertainty.
- A commitment to publish the science-related advice that is received, including all relevant background papers.

In addition to these process responses focussing on the relationship between science and government, the U.K. government report also developed a new set of procedures related to risk and uncertainty, in the context of being more open and communicating more effectively with regard to risk and risk management. This involves the following:

- More transparency in communicating risks and control measures to the public.
- More widespread application of the precautionary principle.
- More post-regulation monitoring to ensure that regulatory measures are having their intended effects.
- More enforcement activity to ensure that risk management measures are fully implemented.
- Greater accountability for risk management policies.
- Improved horizontal coordination of risk management.

**b) *Causal linkages between program outputs and expected final outcomes***

A close review of the structure of the logic model for the BPC Initiative shows that it is not closely aligned with the design strategy for the Initiative and the scope and targets of the various program elements. These gaps between the design and the representation of the Initiative in the logic model relate to:

- ***Weak causal leakages between program outcomes and the level of public confidence.*** The focus in the Initiative on strengthening processes and knowledge, and operating the regulatory decision making process in an open transparent manner is consistent with the guidance and findings provided by the literature review. The design of the Initiative does not, however, include activities to actively and directly inform and educate all Canadians about pesticide regulation and use. We expect that this approach should make an increase in public confidence more likely but a direct cause-and-effect relationship, as is currently presumed in the logic model, cannot be taken for granted, especially given the influence on confidence levels from sources beyond the control of the government. The indirect nature of the linkages between the various program outcomes and the overall level of public confidence also suggests that it will be very difficult to measure and isolate any changes in public confidence that can be attributed to the BPC Initiative. We believe the final outcome relating to public confidence in the logic model should be modified to reflect the way in which transparency is being increased and the ways various program outcomes may influence public confidence.

Transparency, in this context, is consistent with the definition used by the OECD: “Transparency is the central pillar of effective regulation. It is a challenging task and involves a wide range of practices, including standardised processes for making and changing regulations, consultation with interested parties, effective communication of the law and plain language drafting, publication and codification

to make it accessible, controls on administrative discretion, and effective implementation and appeals processes.”<sup>9</sup>

- ***Interdependencies between program elements not recognized.*** The structure of the logic model suggests that the three groupings of BPC programs (involving, consulting and informing; research and monitoring; and, developing and implementing pest management strategies) operate independently without any interconnections or interdependencies. Our review of program documentation and interviews with BPC managers indicated that this does not reflect how the Initiative works. Research and monitoring activities underpin work leading to the development of safer pest management strategies (risk reduction strategies and registration of minor use products) as well as contributing directly to the generation of data on pesticide effects on health and environment.
- ***Impacts on competitiveness.*** Activities and outputs to increase access to safer pest management practices and products are unlikely to directly increase the competitiveness of the agri-food and forestry sectors but should improve the competitive parity of these sectors with regard to access to pesticide products. In other words, they should enable users in these sectors to access more of the lower risk pesticide products that are available to users in other countries, particularly the U.S.

Modifications to the structure of the logic model to address these weaknesses would mean that it more closely reflects the intended outcomes of the BPC Initiative, to protect the safety of Canadians and protect the environment, while maintaining the international competitiveness of the agri-food and forestry sectors.

## C. Progress toward the achievement of expected outcomes

### 1. Achievement of immediate outcomes

The review of the documentation provides evidence that progress is being made in the achievement of immediate outcomes although it was not possible to do a pre/post comparison or determine to what extent the progress made is attributable to the BPC Initiative. The following sections provide examples of the interim and immediate results.

#### a) *Better informed public and stakeholders*

During 2004-05 and 2005-06, the PMRA made a wide range of information available to stakeholders and the public. This information related to proposed and final decisions regarding the registration of new and existing products, new regulations and data requirements, and guidance on the interpretation of data requirements. The Agency also engaged in routine consultations with provincial and territorial governments in the PMRA FPT (Federal-Provincial-Territorial) Committee, and participants in the NAFTA Technical Working Group.

<sup>9</sup> OECD, *OECD Reviews of Regulatory Reform: UK, Challenges at the Cutting Edge*, Paris, 2002, p.57.

***b) Increased public participation***

As noted previously, the new *PCP Act* had not come into force at the time of report preparation, which means that members of the public do not yet have the opportunity to increase their participation in regulatory decision making for pesticides.

***c) Increased knowledge by PMRA about pesticides and alternatives***

Information presented to the March, 2006, meeting of the 5NR Working Group by PMRA suggests that PMRA is drawing on the knowledge generated by research and monitoring projects to support its risk analysis work. Examples of the areas in which PMRA used information provided by members of the 5NR Working Group included:

- Uses of fate/exposure monitoring data.
- Development of risk assessment methodologies.
- Rankings of pesticides according to their potential to contaminate surface and ground water.
- Proposed re-evaluation decisions for various pesticides.

***d) Access to safer pest management practices and products***

AAFC and PMRA have developed 20 crop profiles and 6 commodity-specific risk reduction strategies through to the end of 2004/05. Crop profiles summarize available information on crop production, markets, production practices and current pest management practices, and provide the starting point for detailed risk reduction strategies. Selection of the commodities to be profiled, development of risk reduction strategies and promoting their adoption is based on an extensive array of stakeholder and user consultation and outreach.

***e) Registration of new reduced risk and minor use pesticides.***

The number of new minor use product registrations is a lagged indicator of the performance of the BPC Initiative in that it takes several years to conduct field trials and prepare and evaluate registration submissions. The number of new minor use submissions by provincial minor use coordinators, registrants and the PMC went from 72 and 78 in 2002-03 and 2003-04 to 30 in 2004/05 and then climbed back to 85 in the year to November, 2005. PMRA reports that it registered a total of 367 minor uses for 52 active ingredients during the first two full years of the minor use program; 211 of these were for use on food crops and 124 were reduced risk uses. AAFC's PMC is currently projecting that approximately 40 new minor use product registration submissions will be prepared and submitted to the PMRA in each of the coming years.

***f) Removal of pesticides and uses of higher risks***

The PMRA has committed to re-evaluate all active ingredients registered prior to 1995, which comprises 401 of the 550 pesticide active ingredients and their end-use products registered in Canada. At the end of 2004-05, 182 (45%) active ingredients had been re-

evaluated to the point where either decisions had been made or proposed, or assessments completed. The proposed and actual outcomes from these evaluations were:

■ Discontinued or withdrawn by registrant:	72	(40%)
■ Phase-out requested or proposed by PMRA:	8	(4%)
■ Registration continued with label modifications:	98	(54%)
■ Registration continued with no label modifications:	<u>4</u>	<u>(2%)</u>
	182	(100%)

**g) *Rates of compliance with maximum residue limits in food products.***

CFIA expanded the scope and scale of residue monitoring activities performed under the National Chemical Residue Monitoring Program (NCRMP) to provide the PMRA with a better understanding of pesticide exposure from foods among young Canadians. In the 2002-03 investigation of residues in baby foods 7% of the tested samples of processed fruit and vegetable foods contained one or more pesticide residues and 5 of these 29 samples were in violation of the *Food and Drug Act*. In 2003-04 CFIA investigated the presence of residues in food consumed by young Canadians. Pesticide residues were detected in 3.5% of the regular branded foods tested, none were in violation of permitted Maximum Residue Limits (MRLs).

**h) *Rates of compliance with maximum residue limits for pesticide-fertilizer combinations.***

CFIA's inspectors achieved a "more than two-fold increase" in the conduct of guarantee verifications and "an almost four-fold increase" in the performance of contamination audits compared to activity levels between 2000-01 and 2002-03. In 2004-05, 50 samples were non-compliant out of a total of 100 fertilizer-pesticide samples tested to verify pesticide guarantees and 81 fertilizer product samples tested for pesticide residues.

**2. *Key informants' perspectives on the achievement of longer term outcomes***

Most interviewees who commented on the likelihood of the BPC Initiative achieving its long-term objectives were optimistic that immediate outcomes would be achieved but more circumspect about the achievement of anticipated final outcomes. These interviewees generally felt that BPC program components have established a solid foundation for achieving the intended outcomes, but that it is too early to assess overall success yet due to such factors as time required for programs to produce results and the need for the new *PCP Act* to come into force.

Stakeholders interviewed noted that the Initiative has established a solid foundation for success, but challenges remain that may prevent the Initiative from achieving some of the expected final outcomes.

Of the nine managers who responded to questions regarding public confidence, seven believe that the BPC Initiative, as designed, will increase public confidence through improved communication and transparency. External stakeholders generally agreed with

this assessment, with five noting that there is a need for more and better communication. One stakeholder indicated that there is a need for factual, scientifically sound information that is easy for the general public to understand. However, another stakeholder, at the provincial government level, noted that it will be difficult to increase the confidence of members of the general public who may have already made up their minds on pesticide issues.

With regard to improving access to safer pest management products and practices, over half the external interviewees who responded noted that there continue to be significant cost and competitiveness issues related to pesticides in Canada, particularly when it comes to reduced risk products. They generally felt that Canada is at a disadvantage in terms of the products registered relative to other jurisdictions that are using new reduced risk products. Since the size of the Canadian market cannot be changed, stakeholders representing industry, provincial governments and other organizations feel that the design of the regulatory requirements should aim to minimize the regulatory burden on industry. Three stakeholder representatives noted that this is being done in part through the use of foreign (mostly U.S. EPA) reviews; however, PMRA continues to require data that is not required for U.S. product registrations.

Representatives of provincial governments and industry groups noted that there continues to be a need to improve harmonization between pesticide regulations in the United States and Canada and to ensure that Canadian producers have better access to the same products available in the United States. As one industry representative noted, there are currently 70 reduced risk and low risk pesticides in use in the U.S. that are not available in Canada.

A further challenge for the BPC Initiative achieving its long-term outcomes, noted by stakeholders representing provincial governments and industry, are the timelines. According to four of these interviewees, the current end-point for the BPC Initiative—the end of 2007-08—will not allow sufficient time to achieve the anticipated final outcomes. None of these interviewees could say how long the Initiative would need to achieve the long-term outcomes.

There were differing opinions on the existence of other programs that promote or support the adoption of safer pest management practices in Canada. The consensus view, however, was that, although the provinces and some municipalities are involved in pesticide regulation, their activities complement those of the federal government.

## **D. Conclusions**

### **1. Design of the BPC Initiative**

Research in other jurisdictions, notably in a report of the Science Advisory Group to the U.K. Department of Environment, Food and Rural Affairs (DEFRA) suggests that a lack of openness in dealing with the public results in a lower level of public confidence and trust in government institutions. The design of the BPC Initiative has much in common with most of the guiding principles that the Science Advisory Group believed could rebuild public confidence in DEFRA science, as follows:

- *A commitment to change throughout the entire organization.* Changes to the *PCP Act* are driving changes to the PMRA's processes and transparency and accessibility of regulatory decision making to interested members of the public.
- *Develop the core value of protecting the public.* Strengthening protection of health and the environment is one of the key long term outcomes targeted by the Initiative.
- *Develop a more open and two-way communication channel with the public.* Increased transparency of regulatory decision making is expected to increase the availability of information on proposed regulatory decisions and provide increased opportunities for public and stakeholder input.
- *Meet and review actions with critics.* The risk reduction and minor use programs incorporate mechanisms for consultations with grower groups, pesticides suppliers and other interested stakeholders; groups that include some of the PMRA's strongest critics.
- *Independent corroboration; use more outside peer review.* The BPC research and monitoring programs provide independent research for, and advice to, risk analysis methods and regulatory decision making.

The degree of commonality is less pronounced for the three remaining principles proposed by the Science Advisory Group:

- *A commitment to public access to regulatory information at all stages of the decision and review process.* Changes to the *PCP Act* provide for increased public input to proposed major decisions relating to the registration of pesticides and requests for reconsideration of such decisions, and access to information regarding pesticide registrations, applications, re-evaluations and special reviews. Our interpretation of this guideline is that approaches to regulatory decision-making and responses to "crisis events" require a very broadly based degree of openness and transparency. The transparency elements of the BPC Initiative are more narrowly based but could provide the basis for responding if a major event of concern to the public occurred.
- *Show that new regulatory approaches have been developed as a response to "problems of the past".* The intention of this guideline—which should be understood in the context of public confidence in the department's response to BSE in the U.K.—was to ensure that strategies are developed to learn from, and avoid repeating, past problems, and to say as much in public communications, where appropriate. Part of the rationale for the BPC Initiative is that it responds to public and stakeholder concerns regarding transparency and openness. However, the design of the Initiative does not include provisions to proactively communicate such details to the public and stakeholders.
- *Acknowledge uncertainty in risk assessment.* The Science Advisory Group's key concern here was that uncertain risks should not be passed off as no-risks, with a potential to undermine confidence in the credibility of regulatory processes. This is one area that is not explicitly addressed by the BPC Initiative; however, the PMRA does publish information on its approach to the assessment and management of risk on its website.

Experiences with public confidence and trust issues in other jurisdictions also indicate that any public confidence building must take a long-term perspective and build on a foundation of institutional change. Notwithstanding the best efforts of regulators and regulatory communications, public confidence can be quickly lost as it is shaped by many influences outside the control of the government and the perceived credibility of the government's messengers.

Five key lessons can be inferred from the findings from the literature review:

- General outreach campaigns to the public are believed to have a limited impact, at best, and may even be counter-productive.
- Institutional changes—to improve transparency, strengthen regulatory processes, acknowledge uncertainties and focus on a core value of protecting the public—are a necessary pre-condition for building public confidence.
- Public confidence and trust is believed to be context-specific, that is, members of the public are more likely to review and revise their views and confidence in the regulatory system in response to specific adverse events.
- Public confidence levels can fall sharply in response to an adverse event but require a disproportionate level of effort to rebuild.
- Institutional changes should also mean that regulatory agencies are better prepared to respond when an adverse event occurs, and for their responses to have a higher degree of credibility with the public.

## **2. Logical weaknesses in the BPC logic model**

The structure of the current logic model for the BPC Initiative is not closely aligned with the design strategy for the Initiative. Our analysis of the BPC's design and the scope and targets of the constituent programs indicates that the logic model is weak in three areas:

- ***Weak causal linkages between program outcomes and the level of public confidence.*** The Initiative does not include activities to actively inform Canadians about pesticide regulation and the safety of pesticide products. While the nature of the various BPC program elements should make it possible to increase public confidence, they do so by aiming to reduce the risk that the regulatory system will be perceived as not evolving in response to public concerns and new scientific knowledge. Equally, the indirect nature of the program impacts on confidence levels means that it will be difficult to measure and separate these influences from other influences outside the government's control.
- ***Interdependencies between the various groupings of programs are not recognized,*** particularly the interdependencies between the research and monitoring programs and the development of safer pest management strategies.
- ***Improved competitive parity of the agri-food and forestry sectors rather than increased competitiveness.*** Increased access to safer pest management practices and products should mean that users in the agri-food and forestry sectors will be on a more equitable basis compared to competitors in other countries, notable the U.S.



We believe the logic model for the Initiative should be modified to address these logical weaknesses and better reflect the design and intent of the programs approved by Treasury Board.

### **3. Reach among targeted populations**

Our review of the BPC Initiative documentation suggests that it is reaching a wide range of key stakeholders through various consultation activities, particularly relating to the risk reduction and minor use programs. In addition, the PMRA is making a wide range of information related to changes to the regulatory framework available to stakeholders and interested members of the public. Opportunities for stakeholder and public participation are expected to increase after the new *PCP Act* comes into force.

### **4. Achievement of immediate outcomes**

Findings from the key informant interviews and review of BPC Initiative documentation presented in this chapter and chapter IV suggest that significant progress has been made in the achievement of immediate outcomes anticipated for the Initiative. The progress is most evident in relation to:

- Increased knowledge by the PMRA about pesticides and alternatives.
- Current and prospective registration of reduced risk and minor use pesticides.
- Removal of pesticides and uses of higher risk.
- Monitoring of residues on food and fertilizer-pesticide combinations, and tracking of the incidence of residues in food products typically consumed by young Canadians.
- Development of, and prospective access to, safer pest management practices and products.

Progress against the two remaining immediate outcomes—increased public participation and a better informed public and stakeholders—is less apparent due to the fact that the new *PCP Act* did not come into force at the time originally anticipated by the PMRA (Spring 2004). Notwithstanding this, the PMRA has made significant progress in developing proposed regulations and processes to increase the availability of information on pesticides and pesticide regulation, and expand opportunities for public input to regulatory decision making.

### **5. Achievement of longer-term outcomes**

The progress made in achieving the immediate outcomes suggests that design of the BPC Initiative provides a sufficient basis to achieve its intermediate outcomes, of better protecting health and the environment, contributing to the competitive parity of the agri-food and forestry sectors, facilitating the use of safer pest management practices and increasing the transparency of pesticide regulation. This a qualified conclusion however, given that these impacts will take considerable time to be realized and the Initiative is only now at a stage where the immediate outcomes are being generated. Achievement of the desired final outcomes, while apparently feasible, will also be affected and modified by

the impacts of various other government programs (at federal and other levels of government), as well as actions by industry, growers, other stakeholders and the public.

Most BPC managers and stakeholder representatives who felt sufficiently informed to comment were optimistic that the immediate BPC outcomes would be achieved but more circumspect about the achievement of longer term and final outcomes. These interviewees generally felt that the BPC programs have established a solid foundation for achieving the intended outcomes, but that it is too early to assess overall success due to such factors as time required for programs to make an impact and the need for the new *PCP Act* to come into force.

Stakeholders also noted that challenges remain that may prevent the Initiative from reaching all anticipated final outcomes, specifically those related to competitiveness of Canadian growers. Stakeholders representing provincial governments and industry groups noted that there continues to be a need to improve harmonization between pesticide regulations in the United States and Canada and to ensure that Canadian producers have better access to the same products available in the United States.

## VII. Proposed Framework For The Summative Evaluation

### A. Background

The Results-Based Management and Accountability Framework (RMAF) for the BPC Initiative describes a set of procedures for the partners to operate and evaluate program activities and outcomes, as described in Chapter II of this report. The links among the outcomes involve a sequence in which initially, more and better information related to pesticide risks is gathered. This information is assembled in the initial stage of the Initiative and then affects the regulatory process, leading to better regulation and the use of pest control products with lower risks in the intermediate term. Only when these improved regulatory outcomes are observed will the “final” or long term” outcomes be observed.

A key challenge for the outcome evaluation is that as the analysis moves beyond immediate outcomes where the specific activities of the BPC Initiative can be tracked and documented, the issue of attribution becomes more severe. At the intermediate stage, it may be difficult to distinguish the effects of the BPC Initiative from other related elements of the regulatory framework. Similarly, but more severely, as the analysis moves to public confidence and very broad measures of health and environmental well-being, the roles of competing factors also become more important. The informed views of a wide variety of stakeholders provide the best approach to the attribution issue.

### B. Proposed scope of the summative evaluation

Summative evaluations focus on determining whether specific outcomes or results, as defined in the objectives of a policy, program or initiative, can be attributed to that policy, program or initiative. The typical summative evaluation provides an assessment of the overall set of intended or unintended program outcomes. In addition, summative evaluations typically consider the activities of the program from a cost-effectiveness or cost-benefit analysis perspective to assess whether program activities reflect value for money.

More specifically, a summative evaluation is intended to measure outcomes, impacts and effectiveness, generally in the context of possible improvements and alternatives to achieve these results more effectively. The proposed approach to the summative evaluation has been developed to respond to the following general parameters:

- The primary focus should be on measuring the intermediate term outcomes of the Initiative. This intermediate term focus reflects how long the program has been in operation and should also shed light on the likelihood of achieving its longer-term objectives.

- The summative evaluation should assess the outputs, immediate outcomes and intermediate outcomes of the thirteen separate programs or logical groupings of like and inter-dependent program, such as the research and monitoring programs.
- Governance and other cross-cutting issues should be addressed in the summative evaluation.
- An overall evaluation report should bring together the evaluations of each of the BPC programs and cross-cutting evaluation studies in a report that translates the output focus of the individual reports into a broader focus on the attributable outcomes of the overall BPC Initiative.
- In developing the evaluation framework, we have focussed on breadth and usefulness as well as the issue of feasibility. The literature focuses on useful evaluations and a key element in doing this is to ensure that the design reflects what can actually be done in the context of the BPC Initiative.

### C. Summative evaluation design

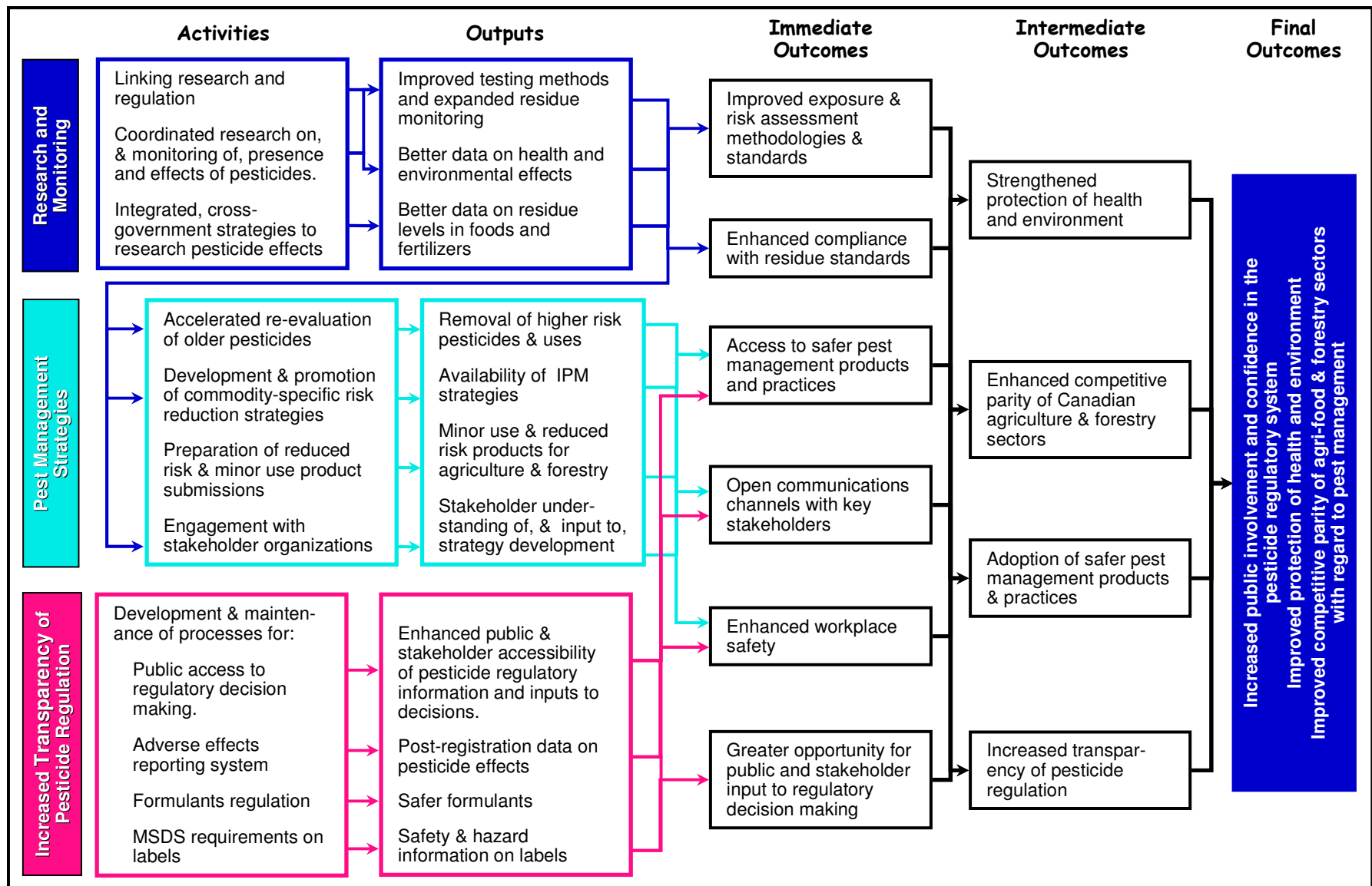
Our interpretation of the formative evaluation findings is that the Initiative should ultimately increase public confidence in the way anticipated by the TB Submission because the regulatory procedures have been improved and the public will recognize that regulatory activities are more effective.

Greater effectiveness implies fewer confidence-reducing events. This approach is distinct from approaches that attempt to build public confidence by communicating and explaining the structure and strengths of current regulatory systems without making underlying changes to the regulatory framework or processes. Much of the conventional literature on “building public confidence” is of this latter variety and is therefore, in our view, somewhat less relevant to the BPC Initiative and the design of the summative evaluation. However, since the impacts of the BPC Initiative on public confidence are not directly measurable, it will be necessary to infer such influences indirectly from such sources as stakeholder views, public opinion research (such as, focus groups and surveys of PMRA web site users), and the effectiveness of the regulatory system.

This distinction in the architecture of the BPC Initiative between increasing opportunities to participate in the regulatory decision making process and actively informing the Canadian public about pesticide regulation and safety is important for framing the summative evaluation. In fact, as we have noted, this distinction is not fully captured in the current logic model for the BPC Initiative and we recommend that a revised logic model be developed to reflect the interdependencies between the different program activities and the nature of the outcomes that can flow from these activities.

Exhibit VII-1 proposes a starting point for this revised logic model. This model emphasizes the distinction between the PMRA-based transparency programs and the research and monitoring, and pest management programs that involve horizontal coordination of work by the six participating departments and agencies. It also proposes modifications to the final outcomes that can be more readily attributed to the impacts of the various BPC program activities versus the implied and indirect linkages to “increased public and stakeholder confidence” and “increased competitiveness”.

**Exhibit VII-1  
Proposed revised logic model**



## **1. Evaluation Methodology**

Our proposed evaluation methodology has the following three features:

- Separate evaluation studies assessing each of the thirteen programs in the BPC Initiative, focusing on such areas as:
  - Outputs and outcomes versus objectives.
  - Effectiveness of program management and coordination, including linkages to other BPC programs and related departmental/agency programs.
  - Need, or otherwise, for the continuation of programs in current form.
  - Future program needs/priorities.
  - Opportunities for cost-effective improvements to program design and delivery.
  - Lessons learned.
- One evaluation study on cross-cutting aspects of the BPC Initiative, such as, governance, integration and coordination of work planning, communications, performance reporting, resource planning and allocation, and information sharing.
- An overall integrated evaluation report presenting a synthesis of key findings from the individual program reports and the cross-cutting report to provide an overall perspective on outcomes, including the issue of attribution, and recommendations regarding the future need for, and direction of, the Initiative.

The specific methodologies within each of these three areas should focus primarily on data to determine what has been done (outputs) as a consequence of BPC and on tracking the impacts of these outputs (immediate and intermediate outcomes), to the extent that this is feasible. We suggest that it may be possible to group some of these studies to reduce the volume and to promote a comparative perspective:

- PMRA activities (1-6) or the PMRA's transparency related programs (1-3, 6).
- Developing reduced risk pest control approaches (7 and 8).
- Expanded monitoring and enforcement (9 and 10).
- Research by sector (11, 12 and 13) and use of findings by the PMRA (4 and 5).

Proposed data collection methodologies for the cross-cutting evaluation study consist of:

- A program of key informant interviews involving representatives of:
  - BPC program management.
  - Senior management of participating departments and agencies, and central agencies.
  - Provincial/territorial and municipal governments.
  - Stakeholder groups representing the interests of: users of pest management products and strategies in the agriculture and forestry sectors, other users, the

pesticides industry, pesticide workers, the public health community, and public interest groups.

- Pesticide regulatory agencies in selected other jurisdictions, such as the U.S., U.K./E.U., Australia.
- Review of documentation relating to the BPC Initiative, relating to such areas as:
  - Reported program outputs and outcomes.
  - Tracking and measurement of consultation and communications activities.
  - Administrative data on program budgets and expenditures.
  - Evaluations and reviews of individual BPC programs.
  - Results from surveys of, and consultations with, growers.
  - Tracking of rates of stakeholder and public participation, for example, use of the PMRA web site, participation in regulatory decision-making processes.
- Review of documentation on programs concerned with managing pesticide use and risks by other levels of government, and in selected other jurisdictions.
- A survey (most likely web-based) of users of the enhanced transparency elements of the new PCP Act and users of related areas within the PMRA web site. This survey would be used to obtain information regarding public awareness and the perceived value of mechanisms to strengthen the regulatory system. It will need to be designed to qualify and segment respondents to enable comparisons between, say, stakeholder representatives and members of the public, and their self-assessed levels of familiarity with the structure of the regulatory system.
- Case studies of the development, adoption and use of minor use and reduced risk products and commodity-specific risk reduction strategies as well as the relative access of Canadian and U.S. growers to minor use and reduced risk products.
- Literature review, investigating experiences with similar pesticide regulation programs in other jurisdictions as well as external literature relating to the performance of the Canadian regulatory system, for example, data on pesticide-related incidents in the workplace.
- The conduct of in-depth qualitative research using a program of structured focus groups to investigate how public confidence changes in response to the BPC programs.

As such, the evaluation will involve a combination of qualitative and quantitative assessments of impacts plus key informants' views on the likely long-term impacts.

Data collection requirements for the evaluations of individual programs will need to be tailored to the nature of these programs and coordinated with the design and conduct of the cross-cutting study. For example, structured interviews with key informants could be designed to collect information and opinions relating the effectiveness of specific programs (if the interviewee indicates that they are sufficiently informed to comment) and the overall BPC Initiative.

## **2. Ongoing performance measurement and reporting**

Improvements in the system of performance measurement for the BPC Initiative are also desirable, to provide BPC managers with a better understanding of the outputs produced, their use by other programs in the Initiative (as applicable) and the immediate outcomes that can be most directly linked to the outputs. The performance measurement system should also include data on performance levels and trends prior to the Initiative (where appropriate) to provide a comparative baseline for assessing performance.

A stronger performance measurement and reporting system will also be necessary to facilitate the planning and conduct of the summative evaluation. More emphasis on tracking outcomes of BPC Initiative is needed, notwithstanding the fact that tracking outcomes is complex compared to the simpler measuring and counting of outputs. Possible types of performance indicators for the immediate outcomes proposed in the revised logic model proposed in Exhibit VII-1 could include:

Proposed Immediate Outcomes	Possible Performance Indicators
<ul style="list-style-type: none"> <li>▪ <i>Improved exposure and risk assessment methodologies and standards</i></li> </ul>	<ul style="list-style-type: none"> <li>♦ Changes to the PMRA's methodologies and standards, and expected benefits of such changes.</li> </ul>
<ul style="list-style-type: none"> <li>▪ <i>Enhanced compliance with residue standards</i></li> </ul>	<ul style="list-style-type: none"> <li>♦ Trends in residue levels and compliance rates for:               <ul style="list-style-type: none"> <li>- Food products consumed by young Canadians.</li> <li>- Fertilizers and fertilizer-pesticide combinations.</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>▪ <i>Access to safer pest management practices and products</i></li> </ul>	<ul style="list-style-type: none"> <li>♦ Availability and adoption of commodity-specific risk reduction strategies.</li> <li>♦ Trends in registrations and use of minor use and reduced risk products.</li> <li>♦ Trends in re-evaluation and use of higher risk products.</li> </ul>
<ul style="list-style-type: none"> <li>▪ <i>Open communications channels with key stakeholders</i></li> </ul>	<ul style="list-style-type: none"> <li>♦ Number and types of stakeholder consultations regarding pest management strategies.</li> <li>♦ Participation rates.</li> </ul>
<ul style="list-style-type: none"> <li>▪ <i>Enhanced workplace safety</i></li> </ul>	<ul style="list-style-type: none"> <li>♦ Changes to requirements for labels and formulants.</li> <li>♦ Trends in degree of workplace safety, as demonstrated by:               <ul style="list-style-type: none"> <li>- Adverse effects reporting/investigations</li> <li>- Trends in occupational illnesses related to pesticide exposure.</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>▪ <i>Greater opportunity for public and stakeholder input to regulatory decision making</i></li> </ul>	<ul style="list-style-type: none"> <li>♦ Number and nature of public and stakeholder participation in registration decisions.</li> <li>♦ Trends in information requests and dissemination related to the operation of the pesticide regulatory system.</li> </ul>

Annual or biannual reporting on outputs and outcomes will be most suited to the long term nature of the BPC program activities and projects, and should complement more frequent operational performance monitoring and management of activities in progress and related expenditures.



### **3. Linkages between the intermediate and longer term goals**

The key challenge in providing a quantitative assessment of the effectiveness of the BPC in terms of achieving its longer-term goals is in developing a complete set of attributable impacts that link the various program outputs to the anticipated final outcomes. The areas of such impacts are clear, however. Reduced risk to the health of Canadians is an important benefit as is a reduction in environmental damage. The BPC initiative targets both of these areas.

There is an extensive literature on the value of these risk reductions that should be part of the literature review and which will provide an index of potential benefits linked to the plausible impacts of the initiative. Note again, however, that separating the independent impact of the initiative from the layers of related risk reduction programs is not likely to be feasible. In addition, the measurement and analysis of impacts on changes health and environment involves a high degree of uncertainty. This uncertainty is a function of such factors as multiple interventions and influences; complex, long-term multi-level chains of effects; methodological issues; and the challenge of compiling reliable and consistent long-term data.

In some areas, more immediate impacts can be monitored and, if such data are available for Canada, used to supplement the findings from a literature review of the long-term impacts on health and environment. In other jurisdictions, for example, California tracks the presence of pesticides in the environment and food products, the level of take-up of integrated pest management practices, and the number of reported occupational illnesses and incidents associated with pesticide use; and the U.S. CDC monitors trends in the exposure of humans to various pesticide groups.<sup>10</sup> The performance indicators suggested in the table above incorporate a number of these types of measures.

## **D. Evaluation matrix**

Exhibit VII-2 provides our proposed summative evaluation matrix. This matrix organizes the evaluation questions by major issue and describes the data indicators and data sources for each question and sub-question. The evaluation questions concern:

- The rationale and continued relevance of the BPC Initiative, focusing on the current and anticipated future need for the Initiative, its responsiveness to any changes in the regulatory environment, and awareness of the Initiative and intent of its program among stakeholders.
- The effectiveness of the design, delivery and governance of the BPC Initiative, including the extent to which planning, management and performance measurement activities are integrated and implemented as intended; and, whether it overlaps, duplicates or complements other pesticide research, monitoring and regulatory programs.

<sup>10</sup> California Environmental Protection Agency and California Resources Agency, *Environmental Protection Indicators for California (EPIC): 2004 Update*, Sacramento, CA. (Accessed at: <http://www.oehha.ca.gov/multimedia/epic/index.html>.)

National Center for Environmental Health, *Third National report on Human Exposure to Environmental Chemicals*, Centers for Disease Control and Prevention (CDC), Atlanta, GA, 2005. (Accessed at: <http://www.cdc.gov/exposurereport/>.)

- The identification and assessment of results achieved, compared to the target outcomes set for the Initiative.
- The proposed approach to cost-effectiveness analysis in the summative evaluation is summarized in the final section of the evaluation matrix in Exhibit VII-2. In this approach, the core methods consist of a comparison of the relative costs, and strengths and weaknesses of the BPC initiatives relative to potential alternative approaches and to the approaches used prior to the BPC. The data for this cost-effectiveness assessment are both quantitative and qualitative. The document review and key informant interviews with BPC managers and stakeholders provide qualitative perspectives. The most likely candidates for some form of quantitative analysis—comparisons of timeliness and cost to pre-Initiative levels or higher/lower program expenditures, and assuming reliable cost and output data can be compiled—would be minor use product registrations, risk reduction strategies, re-evaluations of older pesticides, and possibly the performance of consultations on, and reconsideration of registration decisions.

The evaluation questions also address considerations covered by the policy test questions used by the Treasury Board Expenditure Review Committee. The rationale and relevance questions incorporate aspects of the Committee's questions on public interest, role of government, federalism and partnership, and the design, delivery and cost-effectiveness questions consider value for money and efficiency.

## Exhibit VII-2

## Proposed summative evaluation matrix

Issue and Evaluation Question	Indicators (Data/information that can be used to answer the evaluation questions)	Data sources
<b>Rationale/Continued Relevance</b>		
<p>1. What is the rationale for the BPC Initiative?</p> <p>What factors in the pesticide regulatory process explain the need for:</p> <ul style="list-style-type: none"> <li>- More transparency</li> <li>- Improved access to pest control products?</li> </ul> <p>Would a different mix of services/strategies better meet these needs?</p>	<p>Trends in the level and composition of pesticide sales and/or use in Canada</p> <p>Risk factors associated with pesticides, importance with respect to agriculture and other sectors vis-à-vis competitiveness</p> <p>Balance of opinion regarding:</p> <ul style="list-style-type: none"> <li>- Adequacy of transparency mechanisms</li> <li>- Role of the federal government in areas addressed by BPC programs and role(s) of other levels of government.</li> </ul>	<p>Findings from 2006 Evaluation Report</p> <p>Key informant interviews</p> <ul style="list-style-type: none"> <li>- BPC program managers</li> <li>- Senior management of participating departments and agencies</li> <li>- Stakeholders</li> <li>- Provincial/territorial representatives</li> <li>- Other pesticide regulatory agencies</li> </ul> <p>Program documentation - pesticide sales data, crop profiles, Crop Protection Survey.</p> <p>Literature review - approaches in other jurisdictions.</p>
<p>2. How is the environment in which the Initiative operates changing? Is the BPC Initiative keeping abreast of changes?</p>	<p>Changes in the evolution of BPC's operating environment, and their causes and impacts</p> <p>Evidence that BPC is adapting to changes.</p>	<p>Key informant interviews:</p> <ul style="list-style-type: none"> <li>- Key stakeholders</li> <li>- BPC managers</li> <li>- Senior management of participating departments/agencies.</li> </ul> <p>Document review – program strategies, plans and performance reports.</p>
<p>3. What is the level of awareness of the BPC Initiative and intent of BPC programs among key stakeholders (growers, industry, public health community, occupational health community, public interest groups)?</p>	<p>Value/benefits of knowledge about BPC programs and pesticide regulatory system</p> <p>Awareness levels</p> <p>Evidence of unmet demand, information gaps</p> <p>Measures of reach and impact of communications strategies/approaches implemented by partner departments and agencies.</p>	<p>Key informant interviews or survey of:</p> <ul style="list-style-type: none"> <li>- Key stakeholders</li> <li>- BPC managers</li> </ul> <p>Document review</p> <p>Tracking and measurement of communications and consultation activities.</p>
<p>4. To what extent is there a continued need for a separately funded, horizontal BPC Initiative or can program components be integrated into existing departmental programs? What is the best framework for extending and strengthening the BPC Initiative as it moves forward?</p>	<p>Pros and cons of:</p> <ul style="list-style-type: none"> <li>- Continuation of a separately funded horizontal BPC Initiative</li> <li>- Integration of program components into existing programs of participating departments and agencies.</li> </ul>	<p>Key informant interviews:</p> <ul style="list-style-type: none"> <li>- Key stakeholders</li> <li>- BPC managers</li> <li>- Senior management of participating departments/agencies</li> </ul> <p>Document review.</p>

Issue and Evaluation Question	Indicators (Data/information that can be used to answer the evaluation questions)	Data sources
<b>Design, Delivery and Governance</b>		
5. Are BPC activities designed and delivered appropriately?	Strengths and weaknesses of approaches to: <ul style="list-style-type: none"> <li>- Design</li> <li>- Delivery</li> <li>- Resource allocation.</li> </ul>	Document review – program strategies, plans, budgets and performance reports Key informant interviews: <ul style="list-style-type: none"> <li>- Stakeholders targeted/affected by BPC programs</li> <li>- BPC managers</li> <li>- Senior management of participating departments/agencies</li> </ul> Administrative data and internal reports
6. Are administrative resources (human and financial) adequate to meet the current/future demands for services/activities?	Opinion on adequacy of administrative resources and structures Evidence of resource limitations and their impacts.	Key informant interviews: <ul style="list-style-type: none"> <li>- BCP Program managers</li> <li>- Senior management of participating departments/agencies.</li> </ul>
7. To what extent is there overlap or duplication with other programs or integration/coordination with complementary programs?	Evidence of the extent of any: <ul style="list-style-type: none"> <li>- Overlap and duplication, or</li> <li>- Complementarity with other programs</li> </ul> Inventory of related federal and provincial/territorial programs relating to pesticide safety.	Key informant interviews: <ul style="list-style-type: none"> <li>- Program managers – BPC and related programs</li> <li>- Stakeholders</li> <li>- Provincial representatives</li> </ul> Document review – other programs in Canada plus the U.S. IR-4 program.
8. Are governance and performance measurement and management approaches adequate to ensure objectives achievement?  Are planning, management and funding activities integrated, and projects completed as intended?	Governance review Coverage of outputs and outcomes in performance measurement framework and reporting, and gaps Quality and effectiveness of integrated planning, coordination and communication among partners.	Key informant interviews: <ul style="list-style-type: none"> <li>- Central agencies</li> <li>- BCP Program managers</li> <li>- Senior management of participating departments/agencies</li> </ul> Document/file review – program plans, performance reports, minutes of management meetings.
9. What are the lessons learned related to the implementation of BPC? What alternative approaches could/should BPC adopt from others' experience?	OECD pest management initiatives and international comparisons Opinions on lessons learned/best practices.	Document review Key informant interviews: <ul style="list-style-type: none"> <li>- Stakeholders</li> <li>- BPC managers</li> <li>- Other levels of government</li> <li>- Other pesticide regulatory agencies.</li> </ul>

Issue and Evaluation Question	Indicators (Data/information that can be used to answer the evaluation questions)	Data sources
<b>Success/Results</b>		
<p>10. Immediate results related to BPC:</p> <ul style="list-style-type: none"> <li>- Improved exposure and risk assessment methodologies and standards</li> <li>- Enhanced compliance with residue standards</li> <li>- Access to safer pest management products and practices</li> <li>- Enhanced workplace safety</li> <li>- Open communications channels with key stakeholders</li> <li>- Greater opportunity for public and stakeholder input to regulatory decision making.</li> </ul>	<p>Evidence of:</p> <ul style="list-style-type: none"> <li>- Development of new or improved exposure and risk assessment methodologies and standards</li> <li>- Use of such methodologies and standards</li> </ul> <p>Trends in:</p> <ul style="list-style-type: none"> <li>- Compliance with residue limits</li> <li>- Level and composition of pesticide sales and/or use in Canada, focusing on relative significance of sales of safer products</li> <li>- Availability and adoption of pest management strategies</li> <li>- Workplace safety risks associated with the use of pesticides</li> <li>- Number and types of stakeholder consultation regarding pest management strategies</li> <li>- Level of stakeholder and public consultation and input to decision-making on the regulation of pesticides</li> </ul> <p>Gaps between expected and actual performance, and factors contributing to these gaps.</p>	<p>Interviews:</p> <ul style="list-style-type: none"> <li>- Key stakeholders</li> <li>- BPC managers</li> </ul> <p>Case studies</p> <p>Data on outputs and outcomes from:</p> <ul style="list-style-type: none"> <li>- BPC performance measurement data (e.g., PMC survey(s) of growers, re-evaluation decisions, MU &amp; RR product registrations), adverse effects reporting)</li> <li>- Pesticide sales data base</li> <li>- Tracking systems for monitoring compliance with pesticide residue levels</li> <li>- Workplace safety statistics on pesticide-related incidents</li> <li>- Tracking of rates of stakeholder and public participation, e.g., use of the PMRA web site, incidence and frequency of stakeholder consultations, stakeholder and public input to PMRA decisions.</li> </ul>
<p>11. In the medium term, improved regulatory information acted on and improved regulatory practices, leading to:</p> <ul style="list-style-type: none"> <li>- Strengthened protection of health and environment</li> <li>- Enhanced competitive parity of Canadian agriculture and forestry sectors</li> <li>- Adoption of safer pest management products and practices</li> <li>- Increased transparency of pesticide regulation.</li> </ul>	<p>Opinions on the extent to which medium term objectives have been reached</p> <p>Evidence and/or opinions of:</p> <ul style="list-style-type: none"> <li>- Impacts of specific changes/actions to protect health and the environment</li> <li>- Changes to the competitive parity of Canadian agriculture and forestry due to the availability of new minor use products</li> <li>- Adoption, and significance, of safer pest management products and practices</li> <li>- Changes in the level of stakeholder and public consultation and input to decision-making on the regulation of pesticides.</li> </ul>	<p>Interviews:</p> <ul style="list-style-type: none"> <li>- Key stakeholders</li> <li>- BPC managers</li> </ul> <p>Document/file review</p> <p>Case studies</p> <p>Survey of users of enhanced transparency mechanisms (access to regulatory information, reading rooms, requests for reconsideration of decisions) and people using related areas of the PMRA website.</p> <p>Communications tracking and measurement.</p>

Issue and Evaluation Question	Indicators (Data/information that can be used to answer the evaluation questions)	Data sources
<p>12. Long-term results related to creating regulatory conditions in which an informed public would have more confidence:</p> <ul style="list-style-type: none"> <li>- Transparent, participatory pesticide regulation system</li> <li>- Protection of health and environment</li> <li>- Competitive parity of agri-food and forestry sectors with regard to pest management.</li> </ul>	<p>Extent to which measurable progress has been made (from measures of immediate and intermediate outcomes)</p> <p>Stakeholder ratings/assessments of the level of transparency and effectiveness of the pesticide regulatory system, and degree to which such results can be attributed to the BPC Initiative.</p> <p>Public perceptions regarding the impact of different elements of the BPC Initiative on public confidence in pesticide regulation.</p>	<p>Key informant interviews</p> <ul style="list-style-type: none"> <li>- Key stakeholders</li> <li>- BPC managers</li> </ul> <p>Document/file review – performance reports regarding immediate and intermediate outcomes</p> <p>Case studies.</p> <p>Survey of users of enhanced transparency mechanisms and people using related areas of the PMRA website.</p> <p>Structured focus group research designed to measure reactions to the different program elements of the Initiative.</p>
<b>Cost-Effectiveness</b>		
<p>13. How cost-effective is the BPC Initiative? Are there alternative delivery approaches that might improve cost-effectiveness?</p>	<p>Comparisons of performance levels – outputs, timeliness – prior to and following implementation of applicable BPC programs for:</p> <ul style="list-style-type: none"> <li>- Minor use products;</li> <li>- Risk reduction strategies;</li> <li>- Pesticide re-evaluations.</li> </ul> <p>All departmental costs (i.e., full costs) of input resources, by program.</p> <p>Assessment of costs of alternative approaches.</p> <p>Actions taken to improve efficiency and/or timeliness of programs, and their effectiveness, including quantitative links between outputs and impacts.</p>	<p>Document review</p> <p>Key informant interviews:</p> <ul style="list-style-type: none"> <li>- BPC managers</li> <li>- Stakeholders</li> </ul> <p>Case studies</p> <p>Breakdowns of cost data, by program.</p>
<p>14. How can BPC be improved? Do unexploited opportunities exist to improve performance?</p>	<p>Pros and cons of possible improvement and/or strengthening opportunities.</p>	<p>Key informant interviews:</p> <ul style="list-style-type: none"> <li>- Key stakeholders</li> <li>- BPC managers</li> <li>- Senior management of participating departments/agencies</li> <li>- Other levels of government.</li> </ul>

## E. Evaluation challenges

The design of the summative evaluation is focused on the assessment of relevance, effectiveness, results and cost-effectiveness. At the same time, it should be:

- Useful to program managers, that is, information applicable to future planning for the Initiative and the management and delivery of program elements
- Feasible, that is, based on cost-effective data and information requirements.
- Reflective of core program objectives.

However, the nature of the BPC Initiative poses a number of important challenges for the design and conduct of the summative evaluation, and that only a qualified overall assessment is likely. Of particular note, are the challenges involved in assessing impacts on public confidence and conducting a cost-effectiveness analysis. The nature of these challenges is discussed below.

Although the design of the BPC Initiative, with its focus on strengthening the regulatory system, increasing the transparency of regulatory decision making and improving the availability of safer pest management products, makes it difficult to assess impacts on public confidence, clearly attributable findings should be available for a number of the components of the BPC Initiative. We anticipate that direct evidence will be available to deal with questions related to greater access to pesticides and the provision of safer pest management practices and products. Case study approaches can provide these quantitative results.

### **1. Assessing impacts on public confidence**

The proposed approach to the summative evaluation emphasizes outcome evaluation methods that focus on providing results that can have meaningful impacts on program activities. It is in this context that we have not recommended conducting public surveys or benchmarking of public confidence levels. We do not feel that attributable outcomes can be developed and assessed using a broadly-based survey approach and nor would such a methodology be cost-effective for the summative evaluation.

The proposed evaluation matrix in Exhibit VII-2 contains two approaches to the assessment of public confidence:

- The indirect or inferential approach that uses observable proxy measures for unobservable direct measures of public confidence, such as, improvements to the transparency of the regulatory system, and the level and nature of public and stakeholder participation under the new *PCP Act*.
- Key informant interviews with informed stakeholders, again to make inferences about unobservable public confidence.

In addition, it may be possible to develop a qualitative assessment using in-depth focus group research investigating the potential impacts of a stronger regulatory system on public perceptions and confidence. Note that the use of focus groups to assess the public

confidence impact of the BPC Initiative, attempts to address the core methodological challenge in this area, namely the fact that very few members of the Canadian public are likely to have an adequate information base to respond to questions about the BPC Initiative and its impacts on public confidence.

This approach would require the conduct of 15-20 focus groups of 8-10 persons at a variety of locations across the country (covering all regions, and urban and rural participants). This would mean that we would have data from 120-200 Canadians to analyze.

Each session would be in three parts. In the initial component, respondents would be asked about their understanding of the structure and key players in the pesticide regulatory system. They would then be provided with core background information on pesticide regulation, the *status quo* prior to the BPC Initiative and information on its different elements. This step provides the necessary information base against which participants can provide an “informed” assessment. In the third component, participants would independently complete individual questionnaires that ask them to assess their reactions to the Initiative.

This is a much more intensive group surveying method compared to most qualitative research studies that use focus groups. Development of the moderator guide and the questionnaire will necessitate careful research and pre-testing to ensure that the method applied is reliable and robust. The questionnaire could be developed using Likert scales (a structured method of measuring the strength of positive or negative responses to a statement, e.g., agree/disagree questions) to measure the degree of change due to the BPC Initiative. It would also then be possible to analyse the responses using multivariate techniques. We anticipate that the questionnaire would include ten to fifteen questions that would explore perceptions of respondents to the various elements of the BPC initiative.

In our view, this focus group/surveying method would provide the most methodologically sound approach to the measurement of how elements of the BPC initiative affect public confidence. By analogy, this method resembles the contingent valuation method (CVM) used in many assessments of environmental policies and regulations. These CVM studies are generally more quantitative and demanding than our proposed approach in that they try to elicit a dollar amount that individuals would be willing to pay to have the environmental benefit that would result from a specific proposed regulation. Providing the necessary information base for an informed response is a key feature of such studies.

## **2. Cost-effectiveness analysis for the BPC summative evaluation**

In summative evaluations of investments in new regulatory structures, the central underlying question frequently involves a comparison of what the investments achieve relative to their cost. In cost-effectiveness analysis, the decision rule is to select the option that provides the greatest program benefits at the lowest cost. In this sense, cost-effectiveness analysis is very similar to concepts of value for money, which also focus on program achievements relative to costs.



However, it is frequently difficult to fully evaluate the overall success of regulatory programs designed to reduce or better manage the risks faced by members of the population. The literature review clearly indicates that this is a complex area. The BPC Initiative is layered on top of a variety of pre-existing risk reduction programs at PMRA, Environment Canada, Agriculture and Agri-Food Canada and the Canadian Food Inspection Agency. In an ideal summative evaluation, it would be desirable to have clear evidence of the independent impact of this Initiative on a variety of risk measures. A second challenge is whether one can obtain data on attributable program impacts and associated costs in a cost-effective and timely manner.

The initial step in any cost-effectiveness assessment is to document the actual or likely impacts of the program or initiative. These impacts and how they are generated are the source of program costs and effects. In the case of the BPC Initiative, the objective of the impact analysis would be to determine what the pesticide regulatory and related experience of society would be with the BPC Initiative and in its absence. The difference between experience with the initiative and without it (the counterfactual) is the program impact.

In general, if an initiative is termed “cost-effective”, this should also mean that the initiative is an improvement in terms of value for money. It is important to recognize, however, that a cost-effective initiative does not necessarily save money. Cost-effectiveness incorporates both the costs and the impacts of the initiative in question. For the BPC initiative, program managers should be aware of the data requirements of this component of the evaluation. Cost data that are disaggregated to match the outputs of the programs and sub-programs will be necessary to conduct this element of the evaluation.

Each of the three groupings of BPC programs—strengthening transparency, development and use of safer pest management practices and products, and research and monitoring pesticide effects—has distinct cost-effectiveness challenges.

For components of the first two areas, possible approaches could include comparisons to performance levels prior to the implementation of the Initiative to identify incremental impacts on the cost and/or timeliness of outputs/outcomes, and the identification and assessment of actions taken to improve the efficiency and/or timeliness of program delivery, as well as the identification and assessment of suggested program delivery improvements.

A risk-weighted index of pesticide use could be developed to measure overall progress in reducing risks associated with pesticide use as part of the summative evaluation. This index could be continued on an annual basis as an on-going index of performance and is related to the building public confidence element of the programs. Ideally a quantitative index would include a numerical risk variable for every pesticide multiplied by the number of tonnes used per year. In the absence of an ideal set of data, a less ambitious approach would assign pesticides to categories of risk severity. The literature notes that, presently, the EPA has a four category ranking system for pesticides. More work on data availability is required to determine the feasibility of developing such an index for Canada and it should be noted that it would not be possible to attribute all of the observed changes in such an index to the BPC Initiative.

In areas where a detailed quantitative assessment of cost-effectiveness will not be practical, the proposed analysis will need to take a more qualitative approach to assessing value for money and identifying potential performance improvement opportunities. This approach would be most suited to the research and monitoring programs that have the potential to reduce some of the health and environmental risks faced by Canadians. This assessment could document outputs related to research and monitoring but not attribute risk reduction effects due to the long time frames before such effects could be clearly determined. Key informant interviews could be used to gather informed opinions on the likely future significance of these BPC activities.

## VIII. Recommendations

As a starting point, it is important to note that the BPC Initiative has been largely implemented as intended. Some delays were experienced during start-up, which is not unusual for an initiative that involves multiple departments and agencies within an environment where stakeholder expectations for change are high. Delays in the implementation of the *PCP Act* were also a factor but have not prevented the PMRA from working on the processes and mechanisms required for the application of the new Act. Real progress has been made against the various goals and objectives of the Initiative, such that PMRA regulatory processes and decisions now benefit from the research and monitoring work conducted by DFO, Environment, NR Can, AAFC and CFIA. In addition, AAFC, NRCan and the PMRA have established processes to develop a wider array of risk reduction strategies in agriculture and forestry, and increase registrations of new minor use and risk reduction products.

Equally important have been some of the unintended or unexpected effects of the Initiative. For example, interviewees reported that interactions with, and access to, the PMRA are more open and effective; AAFC has strengthened the linkages between its research programs related to pest management and environmental sustainability to the needs of both the PMRA and grower groups; and, information sharing and joint work has facilitated the identification of opportunities to streamline the process for developing and evaluating minor use submissions.

We are proposing a number of recommendations to improve the management and delivery of the BPC Initiative and to prepare for the required summative evaluation. These recommendations complement the proposed summative evaluation program and proposed changes to the logic model presented in Chapter VII.

### A. Adopt a revised logic model for the Initiative

**We recommend that the participating departments and agencies adopt a revised logic model that recognizes the interdependencies between the research and monitoring, and pest management programs within the Initiative, and more accurately reflects the range of outcomes that can realistically be achieved by the Initiative, using the model presented in Exhibit VII-1 as a starting point.**

The revised model should be designed to reflect more accurately the core focus of the BPC Initiative strategy and the design of each of its programs. In doing so, it should address the weaknesses of the current model that were identified as part of the analysis for the formative evaluation:

- Weak causal linkages between program outcomes and the level of public confidence.
- Interdependencies between the various groupings of programs are not recognized.

- Improved competitive parity of the agri-food and forestry sectors rather than increased competitiveness.

## **B. Finalize the performance measurement framework and collect outcome data**

Current performance reporting for the BPC Initiative is under-developed, and the participating departments and agencies are still grappling with how best to measure and report on their achievements, especially expected outcomes.

**We recommend that the departments and agencies participating in the BPC Initiative develop a single performance measurement framework for the Initiative that identifies and defines a concise set of performance measures for the elements of the revised logic model, particularly outcome measures, and ensure that data collection and performance monitoring activities are generating the required data.**

This framework should build on the experiences with performance reporting to date and maintain a core focus on defining and measuring the “success” of the Initiative. Without attention to the development of a more complete performance measurement system now, and collection of the required data, it will be difficult to provide reliable information for the summative evaluation and decisions regarding the future of the Initiative, post 2007/08.

## **C. Strengthen the integration of program activities**

The degree of integration of program planning and management varies among the groups of programs that involve greater degrees of horizontality. The work of the AAFC-PMRA Joint Management Committee (JMC) and supporting working groups concerned with commodity risk reduction strategies exhibits a high degree of joint planning plus regular interactions between AAFC and the PMRA at an operational level. Planning for the research and monitoring programs that fall under the ambit of the 5NR Working Group is less well-developed although the level of information sharing and operational coordination has improved considerably as the BPC Initiative has progressed. The 5NR planning process appears to involve a more linear approach; the PMRA produces an annual list of research needs and priorities that then provides the starting point for individual program planning by the other 5NR partners that, together, constitute the annual 5NR work plan.

**We recommend that the 5NR Working Group develop a single integrated work plan for the research and monitoring programs for the remaining years of the BPC Initiative. The process for developing this plan should focus on developing a collective response to the PMRA’s research priorities, ensuring that these priorities also reflect the capacity of the research groups to meet these needs and the time frames required to obtain useful knowledge. Research needs of the joint PMRA-AAFC Pesticide Risk Reduction Program should also be integrated into this planning, as appropriate.**

**In addition, and in order to strengthen the overall integration and coordination of the Initiative, we recommend that all six participating departments and agencies undertake joint planning for both the summative evaluation and development of a strategy for the direction and scope of the BPC Initiative beyond the period of the current funding agreement.** This exercise will need to consider where horizontal approaches to strengthening and supporting the pesticide regulatory system are most needed and to determine the best means of funding and performing such activities. Consultation with, and input from, stakeholders regarding the development of a future strategy should be incorporated into this review process, and complement stakeholder input to the summative evaluation.

#### **D. Strengthen the accountability of the 5NR Working Group**

The 5NR Working Group has functioned effectively at an operational level, with each of the partners focusing on the design and implementation of their respective research projects and, more recently, sharing of research results. In this context, it is difficult to justify convening a meeting of departmental ADM's to provide direction and oversight for a series of programs that account for very small proportions of the budgets of some of the participating departments and agencies (DFO, NRCan, Environment and CFIA). However, we believe that the need for more strategic management role will increase as the current research and monitoring projects are finalized and findings are applied by the PMRA, and questions arise regarding future research priorities. Input and guidance from senior departmental managers will likely be required in responding to these questions as well as providing oversight for the planning of the summative evaluation and review of findings.

**We recommend that a committee of Directors-General or Assistant Deputy Ministers from each of the participating departments and agencies be struck to develop the future strategy for the conduct of cross-government pesticide research and monitoring. The roles of this committee should include:**

- **Review and approval of the integrated 5NR work plan and the fit of that work plan within the priorities of the 5NR departments and agencies' own programs.**
- **Review and approval of proposed performance measures for the research and monitoring programs.**
- **Review of results achieved and the effectiveness of the horizontal approach taken within the BPC Initiative.**
- **Consideration of the inter-dependencies with other BPC Initiative programs.**
- **Development of a vision and strategy for the future operation of the pesticides research and monitoring initiative post-2007/08.**
- **Participation in the oversight of the planning and conduct of the summative evaluation.**

Accountability of the 5NR Working Group to this steering committee should also increase the visibility of the pesticide research and monitoring activities, and build understanding of the contributions a stronger pesticide regulatory system may make to the achievement of partners' goals in such areas as environmental sustainability, health and the viability of the agri-food and forestry sectors. Another consideration in the future vision is that of participation by Health Canada's Food Directorate and AAFC's Research Branch in the Initiative, both of which conduct relevant research and provide information and advice via the 5NR Working Group but are not funded partners.

## **E. Implement a targeted communications strategy**

External stakeholders who participated in our interviews consistently indicated an interest in knowing more about the Initiative (in addition to specific programs). Interviewees who also served on the PMRA Pest Management Advisory Council (PMAC) expressed surprise that the Council had not been briefed on the Initiative (as opposed to being briefed on progress on various program elements). Several also suggested that the various stakeholder organizations represented on PMAC could play a valuable role in disseminating information to their constituents. Additionally, many of the managers and staff of the various BPC programs were not aware of the full scope and objectives of the Initiative.

**We recommend that a targeted communications strategy be developed and implemented to “brand” the BPC Initiative. This branding should develop recognition and understanding among both external stakeholders and BPC managers and staff of the overall design, objectives, activities and benefits of the Initiative. The strategy should be integrated with the broader communications strategies of the partners in the Initiative, particularly those of the PMRA and AAFC, that are intended to increase stakeholder and public understanding of the pesticide regulatory system.**



# Appendix Supporting Technical Reports

# Supporting Technical Reports

Separate technical reports summarizing the findings from each of the lines of enquiry used for the evaluation were prepared to facilitate the preparation of the evaluation report:

Technical Report – Documentation Review.

Technical Report – Literature Review.

Technical Report – Key Informant Interviews.