Agriculture and Agri-Foods: Scenarios of the Future

By W.M Miner¹
Senior Research Associate
Centre for Trade Policy and Law

Foreword

This Working Paper is one of six case studies on the scenarios for global and regional integration now being released by the Institute of Intergovernmental Relations. The Institute embarked in 1999 on a multi-year research program on the effects of and challenges for Canadian federalism of global and regional integration. This project proceeded from an assumption of continuing and possibly accelerating international integration and governance, and that policy matters within provincial government jurisdiction will increasingly be the subject of international negotiation. The broader objective of the project has been to examine whether the institutions and dynamics of the Canadian federal system can continue to effectively manage this change. The central issue we have been investigating is under what circumstances continued ad hoc adjustment to the processes and institutions of the federation would remain the appropriate course of action; and under what conditions more systemic reform would be the preferred or even the essential course to take. For more information of the research output and findings of the project overall, please consult the Institute's website at www.iigr.ca.

Our research program has consisted of several components: the development of a set of scenarios for the world in 2015; a baseline study of Canadian federalism and international relations; a set of papers applying the scenarios and comparing integration challenges in other federal systems; and these six case studies. The case studies cover the following policy sectors: Biodiversity, Climate Change, Health and Health

Care, Agriculture and Agri-foods, Aboriginal Governance, and Financial Services. They were initially prepared for discussion with the policy sector communities. Most of these discussions were sponsored by the Government of Canada through the relevant departments.

The Institute wishes to acknowledge the following agencies for their financial support of this research program: Agriculture and Agri-Foods Canada, the Government of Alberta, the Canadian Council of CEOs, the Climate Change Secretariat, Environment Canada, Health Canada, Industry Canada, Indian and Northern Affairs Canada, the Policy Research Initiative, the Privy Council Office and the Social Sciences and Humanities Research Council of Canada.

Finally, as Director I wish to acknowledge the role that Douglas Brown, Institute fellow, has played in the overall coordination of these case study papers and in our Global and Regional Integration project as a whole.

Harvey Lazar Director March 2003

1.0 INTRODUCTION

The global and regional integration of economies and most human activity is profoundly affecting the agriculture and food industry in Canada. These forces are fundamentally altering the agricultural policies and activities of governments and institutions within Canada and across borders. Driven by innovation, new technologies and consumer choices, the process of globalization will continue in some form, as will the adjustments in policies and the means of governance. While changes are certain, their characteristics and directions are less so, as events, issues and forces influence their nature, speed and direction.

Domestic and international policies, and the mechanisms of governance, generally trail events and issues, and adjust slowly to change. But in an age of rapid technological advance and instantaneous communication, the adjustment times are shortening. While globalization appears

¹ The author wishes to acknowledge the contribution of Douglas Brown, Fellow of the Institute of Intergovernmental Relations, on the discussion of governance issues in this paper.

certain to affect agriculture and its policies and institutions, the evolution of the sector and the forms of governance may follow various paths. To help governments and institutions prepare for an uncertain future, and to respond more effectively to the emerging environment, it is useful to consider alternative scenarios to describe how the major developments and forces may drive change.

This paper considers four possible scenarios, as developed for the Global and Regional Integration and Federal Systems research program of the Institute of Intergovernmental Relations.² The four scenarios are called: The Global Club, Shared Governance, Cyberwave and Regional Dominators. They are described in greater detail in part 3 of this paper, and represent potential alternative futures to the year 2015. The goal here is to apply these scenarios to the Canadian agriculture and agri-foods sector and its governance. This case study is one of seven under the overall research program.³

The discussion begins in Part 2 with a substantial analysis of the current setting, both international and domestic, for policy challenges and governance. This setting ends with a summary of the characteristics of what amounts to the base case for the four scenarios that follow. These scenarios are described in part 3 in general terms and specifically with respect to the agriculture and agri-foods sector. The discussion of each scenario follows the following sections: 1) an overview of the scenario; 2) how the scenario came to be, i.e. its imagined evolution from the base case; 3) the structure of international power and governance that emerges from the scenario; 4) the economic growth and trade aspects of the scenario; 5) the domestic

governance and civil society aspects; 6) and the social and rural effects and implications.

The fourth and last part of this paper stands back from the detail of the sceanrios to present a comparative analysis of the governance challenges of the scenarios as a whole. This is done in four parts: implications for international governance and Canada's role; changes to the domestic governance environment; the task of managing civil society and industry representation; and finally, the specific challenges of federal-provincial relations.

Overall, this study concludes that the business of farming, the needs and wants of consumers, and the handling and distribution of food and agricultural components, will become significantly more sophisticated and complex by 2015. The impact of these changes on the federal system of governance are likely to be substantial under each scenario but also quite different under the four scenarios examined in the analysis.

2.0 THE SETTING

2.1 The Canadian Food Sector

The Canadian agriculture and food sector (also referred to as agriculture and agri-food, or as the agri-food system) represents a vital component of the Canadian economy and an important contributor to the gross national product. It includes primary agriculture, food and beverage processing, non-food agricultural processing, and directly related input, distribution and service sectors. In terms of commodities and products, this paper covers those land-based items included in most agricultural trade agreements⁴. The fisheries sector and forest and forestry products, which are normally subject to separate and specific policies, agreements and institutional arrangements, are excluded here. The agri-food sector defined to include primary agriculture and directly related industries such as food and beverage processing, amounts to 4.2 percent of

² See "Future of Global and Regional Integration", scenarios developed for the Institute of Intergovernmental Relations, Queen's University, October 1999 at website: http://www.iigr.ca/

³ The other six cover: health and health care; climate change; aboriginal governance; environmental biodiversity; financial services; and electronic commerce.

⁴ For our purposes this includes those product categories covered by chapters 1-24 of the Harmonized System of Tariff Classifications.

GDP. The wider "agri-food system" that includes retail and wholesale food distribution, and non-food processing, amounts to 8 percent of GDP. The wider system also provides more than 14 percent of total employment in Canada. The sector is expanding in absolute terms. In 1993-98, growth was steady at 2 percent per year, although less than the 2.5 percent growth of the goods producing sectors in the economy as a whole.⁵

Agricultural production in Canada is increasingly diverse. But it is still primarily a commodity business. Of total farm cash receipts, the biggest contributors are: grains and oilseeds, followed by red meats, dairy, poultry and eggs, and fruit and vegetables. However, advanced technology and the pull of the market are expanding the range and value of all product outputs. The four largest categories of exports are: 1) grains, oilseeds, and their products; 2) red meats and other livestock products; 3) "other products" including alcoholic beverages; and 4) fruits and vegetables. Increasingly this trade is in the form of processed products. While agricultural production occurs in all provinces and territories, five provinces dominate production and export: Ontario, Quebec, Alberta, Saskatchewan and Manitoba. Processing and other agri-food activity occurs primarily in the more populated regions of southern Ontario and Quebec, Alberta and British Columbia.

Under the Canadian Constitution, agriculture is a shared jurisdiction (more specific discussion of agriculture as a concurrent jurisdiction is covered below). There is a long history of cooperative actions by both the federal and provincial levels of government to develop infrastructure, conduct research, improve markets and producer incomes, and assure the safety and acceptability of the food supply. This relationship, and the policies, processes and institutions of the federation, has evolved in response to the sector's needs, the fiscal capacity of governments, and developments in international markets. Not surprisingly, there

have been differences between Ottawa and the provinces, and among the provinces, over relative shares of federal transfers and differential impacts of commodity programs and marketing. Quebec in particular, and Alberta have actively pursued greater autonomy in agriculture and food matters.

Global and regional integration, and fiscal constraints, are increasingly influencing these arrangements, and leading to more competitive forms of governance in Canadian agriculture. Policy formulation and institutional behavior is more and more sensitive to external forces. Developments in other agricultural regions, particularly in the United States and the European Union, and in world markets and international institutions, have a strong bearing on Canadian agricultural performance and systems. Thus, Canadian policies and institutional arrangements are strongly influenced by adjustment trends in agriculture and foods in a regional and global setting.

Most agricultural policies, regulations and standards are directed towards the primary production and consumer food levels. They affect research activities, inputs, production of crops and livestock, marketing and distribution, processing, and retail sales and services. Trade policies and international agreements are an especially key component of the federal system of governance. This paper examines the broad agri-food system with a focus on those policies and institutions that are directly related to primary production, distribution and use, and trade.

2.2 The International Context: Policy Drivers and Institutions

The international context, of which Canada is an integral part, can be described in two dimensions: first, policy drivers and second, institutions and processes. International policy drivers include traditional ones such as the role of agriculture in national security and economic development, rural stability and income distribution and global and regional market integration and access. The new policy drivers are technological advances in the industry

⁵ Agriculture and Agri-food Canada, A Portrait of the Canadian Agri-Food System (Ottawa: AAFC, June 2000).

including biotechnology, changing and disaggregating consumer demand, and new policy concerns about food safety and the environment.

2.2.1 International Policy Drivers

Food Security and National Development

Agriculture and related industry and infrastructure are strongly affected by global and regional integration as is the case for all sectors of the economy. Nonetheless, there are important differences arising from the unusual degree of disaggregation of farming and the greater involvement of governments in the sector through special policies, subsidy transfers and direct interventions. Food is an essential element in the development of nations, and figures prominently in most national strategies. Food considerations arise in all major global events, ranging from natural calamities to political conflicts. There are also global concerns over the ability of the world to feed its expanding populations and to maintain an orderly system for trade in foods.

Most economies develop from an agricultural base, and governments have perceived a need to intervene in food production, consumption and trade, both directly and indirectly, to further national goals. A wide range of policies, regulations and institutions has been introduced in most countries to influence the agri-food sector. The forms of governance arrangements for agriculture, and the policy interventions of each country, vary markedly in relation to the resource base, market size and stage of development.

A near-universal trend has been the exodus of the rural population as commercial agriculture emerges under the influences of mechanization, technological developments, and improved farming methods. Rising productivity has led to declining real prices for most agricultural commodities. In wealthier countries, particularly those with a large domestic consumption, support programs have been maintained to stabilize markets and supplement farmer's incomes

through border protection, higher internal prices and subsidy transfers. The opposite was the case in most developing countries which discriminated against agriculture and the food trade to raise state revenues, assure a stable supply of low-priced, basic foods, and encourage industrial development through import replacement. In some countries, the improvement of food security, the conservation of resources and rural development have been stated objectives. Government programs have also provided subsidies for infrastructure and for selected farm inputs.

The rationale for government involvement in agriculture has also extended in many cases to strategic and social goals to protect farming as a way of life. This special significance of agriculture has strengthened public support for a greater state role to subsidize and protect agriculture, and to intervene directly in markets. It was also embodied in the GATT from the outset as agriculture was treated as a special case. Specialized international agencies were developed to improve food security and promote agricultural development (see below). The support for state involvement is continuing although the role of national governments is being reduced as commercial agriculture has taken hold, and the farm and food industries have become more closely linked to other sectors of the economy and to global markets.

Market Integration and Access

By the 1980s a general consensus emerged that domestic policies of support, protection and intervention were not achieving many of their objectives, and were exacerbating the income and structural problems of the farm and food sectors in most countries. Attempts to stabilize and improve world prices for farm commodities had largely failed. Price and income supports were contributing to surplus conditions and inhibiting production adjustments and processing. Rural poverty in developing countries was aggravated by farm support programs in industrial nations, depressed world markets, and their own administered prices. Increasingly national policies and state interventions were recognized

as a significant part of the worsening trade and income problems in agriculture. In the Uruguay Round governments agreed to initiate a reform process to establish a market-oriented agricultural trading system by reducing agricultural support and protection and strengthening the rules of trade.

Agriculture Reform and Adjustment

In the last two decades the trends toward market integration, combined with government deficits in industrial countries, and growing indebtedness and balance of payments problems in developing countries, have triggered major agricultural policy reforms in all regions. Developments in technology, communications. and consumer tastes are stimulating changes in processing, packaging, marketing and transportation. Food markets have become more specialized and segmented to meet a greater diversity in demand. The need to open markets to investment and competition, to adjust domestic policies accordingly, and to reduce direct market interventions, has become part of the structural adjustment process in most countries. These policy shifts are accompanied by industry consolidation and the emergence of corporate networks and linkages in agri-food systems, often on a regional basis. Although hunger and malnutrition persist in some regions, this is now seen as a problem of poverty and underdevelopment since global food supplies normally exceed effective demand.

These market developments are reflected in a changing role for governments as the state moves back from the market through deregulation and the liberalization of trade. Some re-regulation is occurring in response to newer concerns related to food safety, consumer information and protecting the environment. Nonetheless, there are ongoing pressures to maintain programs to minimize the impact of production cycles and structural changes. However, with the support of advocacy groups concerned with the environment, food safety, rural development and animal welfare, some producer organizations are continuing to seek to slow the policy reform process, and to buffer the "special" food sector

from the forces of technology, market integration and commercial agriculture.

Technological Change and the "Life Sciences Economy"

Advances in technology have affected agriculture as much as any sector of the economy, including rapid changes in communications, transportation and information. These technologies have helped transform and enable the global growth of agri-business, focussed on specialized food products and services. Yet agriculture and agri-foods have also been the home base of significant new fields of technology applied specifically to the sector. This biotechnology is beginning to increase dramatically agricultural productivity and has the potential to spawn an entire new sector - the "life sciences economy" with goods and services related not just to food but also to materials, fuels, medicines, and cosmetics among others. However, this wave of biotechnological innovation is accompanied by a new set of social and regulatory issues surrounding intellectual property, biodiversity and other environmental concerns, human health and consumer acceptance. As with other market driven forces, the life science technologies provide both competitive threats and opportunities for Canadian agriculture, even as Canada becomes a world leader in some parts of the new life sciences economy.

Thus the policy environment for agriculture and trade policy development has changed quite dramatically in the last two decades, and is continuing to evolve. Traditional concerns about national economic development and food security have given way to the increasingly global nature of economic activity, and the regional and international integration of markets. Governments around the world face increasing pressures to harmonize economic policies, standards and institutions. There has been a general trend toward fundamental policy reforms and the restructuring of economies in virtually all regions of the world. While these trends affect most sectors and industries, their impacts are

stronger in agriculture, which has been partially insulated from the mainstream of economic adjustment.

Simultaneously there has emerged a new set of social and environmental policy concerns arising from the intense concentration, commercialization and transnationalization of the agri-foods sector. Food product giants have helped foster waves of biotechnological, "life sciences" innovation, including recent advances in genetically modified organisms (GMOs). Reaction to such trends in the form of consumer and environmental advocacy have begun to rival traditional social and economic policy drivers on a global scale.

2.2.2 International Regimes

International policy drivers are mediated and given political, legal and administrative force through the operation of various international regimes. As trade represents an important and growing contribution to Canadian agriculture, and international arrangements play an increasing role in domestic policy and institutional development, the international trade regime is especially important to the Canadian agri-food economy.

The International Trade Regime

Traditionally, Canada has been an active participant in the international policy-making process for agricultural liberalization. As part of the Cairns group of agricultural exporters, Canada has sought the reduction of commodity subsidies, especially on grains, by the US and EU. The impact on world trade of such domestic agricultural policies was recognized in the Uruguay Round negotiations and disciplines on farm support form one of the key pillars of the Agreement on Agriculture of the World Trade Organization (WTO). To an increasing degree, agriculture is being incorporated into regional trade agreements as well. As a consequence important components of Canadian governance arrangements for the sector are the global and

regional agreements and their institutions. The most influential international regimes are:

- Under the umbrella of the World Trade Organization (WTO) – the Agreement on Agriculture; the WTO Secretariat; the Ministerial and General Councils; and the Committee on Agriculture.
- On a regional basis, NAFTA, its Committees and Secretariat; and the original Canada-U.S. Free Trade Agreement.
- The WTO Sanitary and Phytosanitary (SPS) Agreement and its institutions.
- Other WTO Agreements and institutions, particularly Agreements on trade related investment measures (TRIMS), trade-related aspects of intellectual property rights (TRIPS) and the Understanding on rules and procedures governing the settlement of disputes.

These agreements, and particularly the WTO Agreement on Agriculture, respond to the impacts of integration on domestic agricultural policies, and for the first time placed direct and binding constraints on them. The most important in terms of policy development and governance was the agreement on trade-distorting support measures. Certain subsidies and related practices were prohibited outright, while others are being reduced over time and others were determined to have little or no distorting effect on trade. The latter category of measures was immune to WTO trade remedy actions and to countervail actions against imports for a transition period (ending in 2003). This new subsidy regime has had a positive influence on investment in Canadian export sectors, and exports of agricultural products, particularly to the US. A related domestic policy decision to eliminate Western grain transportation subsidies was in part attributed to the need to reduce export subsidies under the Agreement. The commitment to convert non-tariff barriers to tariff equivalents (e.g. for Canadian dairy products), and to begin to reduce them, was a step toward the elimination of managed trade in farm products. The SPS Agreement imposed rules based on science for measures to protect human, animal or plant life or health related to trade. These and other WTO

rules and commitments, and the undertaking to renew negotiations, are having a significant impact on policies and institutional arrangements for Canadian agri-foods.

The Canada-US Free Trade Agreement, which was incorporated as a bilateral agreement in NAFTA, placed only modest disciplines on agricultural policies. It has a much stronger longer-term influence by encouraging further integration of the agri-food sector. It establishes a more secure basis for direct foreign investment, trade and the development of food systems on a continental basis. Canadian agri-food trade with the US has grown substantially since the agreement took effect, particularly in processed forms. There is an increasing balance in Canada's favor. Some of this growing business represents intra-corporate trade. Over half of Canadian agri-food exports move to US customers, and a much higher proportion of semi-processed and consumer food and beverage shipments. Given the sector's strong reliance on exports for growth, this degree of integrated concentration on the US market has a dominant influence on Canadian policy evolution and on the development of the sector. Canada also has "free trade" agreements with Chile, Israel and the EFTA countries. It is an active participant in discussions for similar arrangements in the "Americas" (FTAA) and the Asia-Pacific region (APEC).

Other International Regimes

Some other key international regimes also provide an important international context for Canadian governance. Among the more influential are:

- Codex Alimentarius Commission
- International Plant Protection Convention
- International Office of Epizootics
- Biodiversity Protocol
- The Kyoto Protocol and the Framework Convention on Climate Change
- The World Health Organization
- The International Standards Organization

Important consultative bodies in relation to agri-food policies include the OECD, FAO, World Food Council and commodity organizations such as the International Grains Council. There are many other international institutions that contribute to the evolution of agri-food policy.

2.3 The Domestic Context: Policy Drivers and Institutions

The specific policy drivers in the Canadian domestic context are both an extension of the global influences and institutions just described, and the outcome of unique Canadian geographic, social, economic and political factors. The key drivers are: the relative "maturity" of the primary agriculture sector; the dynamic competitiveness of agri-foods business in a largely continental setting; major regional differences in production, adjustment patterns and policy needs; and challenges related to improving the Canadian economic union.

2.3.1 Domestic Policy Drivers

A Mature Agriculture Sector

Canada has a relatively mature food system. The primary sector is long-since established and has been consolidating -- the number of farms continues to decline and farm size to rise as productivity increases. Future growth will be overwhelmingly in the food processing and services sectors, expanding in response to changing lifestyles and consumer demands. Primary agriculture is distributed across the provinces according to traditional production capabilities and government policies, but food and beverage processing and food services activity is strongest in the more populated regions. The share of agri-foods in total merchandise trade, both imports and exports, declined slightly in the 1990s but the trade balance for the sector is positive and expanding. Canada has become a net exporter of agri-foods to the US over the last decade. The export of intermediate and fully processed products is rising more rapidly than bulk shipments although Canada is still a net importer of consumer-ready foods. Yet, overall Canada's share of world agrifood markets is declining, reflecting the shrinking role of commodity trade, and relative lower levels of productivity and competitiveness in higher valued products.

Adjustment Challenges

Adjustment to these trends represents a major challenge for Canadian agriculture, and for its policies and institutions. Canada's smaller domestic market is more dependent on exports, and particularly on less-processed forms. The emergence of more diversified and segmented food markets and more open trading arrangements translates into stronger demand for value-added consumer foods, and intermediate components for processing and wholesale distribution in Canada and in other high income regions.

As incomes rise in emerging economies, and urban populations expand, consumption shifts from traditional staple foods to diets higher in protein, including red meat, pulses, poultry, and dairy products. The global outlook for agri-food markets indicates a continuation of these trends in consumption and trade with ever-greater emphasis on product differentiation, food quality and safety, and consumer convenient and nutritious foods. Significant growth in non-food uses of agricultural products is also anticipated. Projections of food demand beyond 2015 indicate only a gradual increase in the use of bulk cereals and other crops, based primarily on population and income trends. The outlook for livestock products, fish, dairy and poultry products, and processed foods, is expected to be stronger.

Domestic policies responding to these market changes have been gradual and uneven. The trend is toward decoupling farm income support from direct payment for commodities produced, and modifying or removing policies and regulations to improve their sensitivity to market developments. This trend is more pronounced for livestock, red meats, oilseeds and special crops, fruits, vegetables and most of the processed food sector. Public intervention is still a major factor in the production of wheat and barley for export

and food use, as marketed by the Canadian Wheat Board (CWB) and provincial (Ontario) monopolies. The CWB also plays a major role in the handling and transportation of grains. For the supply managed sectors of dairy, eggs, poultry and their products, provincial and federal legislation continues to directly influence production, prices and marketing.

Major restructuring and consolidation is also underway in food and beverage processing, and at distribution and retail levels. Foreign direct investment in the Canadian food sector exceeds investment outflows, speeding up structural adjustments and the integration of North American food systems. While some of this investment is directed toward the processing and distribution of complementary and specialized foods, it is also moving into the more protected sectors. Handling and transportation facilities are being adjusted toward north-south movement through consolidation with new investments and corporate linkages. The shift toward integrated food systems on a North American basis is most advanced for red meats, oilseeds, fruits and vegetables and certain processed foods and beverages. It is also emerging for cereal milling, malting and grain handling.

This agri-food restructuring inevitably gives rise to concerns over the impact on rural areas. Although rural populations are expanding at a faster pace than urban areas in Central Canada and parts of the Atlantic Provinces, the opposite is the case in Western Canada, and particularly in Saskatchewan. This translates into less economic activity and declining rural services in the latter areas, adding to tensions over the impact of restructuring and adjustment. Programs and institutional arrangements are now in place in both federal and provincial governments to assist rural areas. These concerns are accentuated in periods of commodity downturns, as presently exist for grains and oilseeds. Off-farm income now exceeds cash income from farming operations, and the more limited opportunities in rural areas of some provinces create serious differences over provincial shares of federal funding for agriculture.

Regional Differences

Canada's agriculture sector is, as noted, significantly regionalized, given the considerable diversity of regional ecosystems, land and water resources, proximity to major markets and the differing nature of economic and social development. These regional differences may be managed, and in some cases are exacerbated by the institutions of federalism (also discussed below).

The global and continental market developments described above have had differential impacts on the provinces. Primary production still dominates prairie agriculture. while processing and food services is more important in Central and Atlantic Canada and on the Pacific coast. Recent trends also create particular difficulties in those provinces where supply managed commodities are more important, e.g. dairy in Quebec and Ontario, and wheat in Saskatchewan. Although processing capacity is expanding in all regions of the country, the pressures of changing markets and economic integration are sharper in the Prairie Provinces. Overall, adjustment is taking place more slowly in the key grains sector in the Prairies, and the dairy, eggs and poultry sectors, concentrated in Ontario and Quebec. Although a significant diversification in crops and processing is taking place in Western Canada, the region continues to rely heavily on commodity trade, which accentuates the adjustment problems. The difficulties in this region, and the Atlantic Provinces, are aggravated by their smaller urban populations.

Other regional differences have more to do with social structure and cultural or linguistic identity. Agricultural society in Quebec is largely, but not exclusively, francophone and seen as an important part of the overall fabric of that society. Moreover, the approach to agriculture as to other aspects of public policy, tends to be somewhat more collectivist and state-directed than elsewhere in Canada. In particular, the principal organization of farmers, the Union des Producteurs Agricoles (UPA), is very strong and enjoys a corporatist relationship with the

Government of Quebec (i.e. a formal and partnering role in the policy-making process akin to European political systems). In the other provinces, agricultural interests are well organized and generally effective but do not combine in quite the same way to influence policy as in Quebec. Nonetheless in the three prairie provinces, especially Saskatchewan, agriculture and other rural issues become significant and often dominant political concerns.

Not surprizingly, these regional differences in underlying production and in the challenge (and ratio of cost/benefit) of adjustment, are reflected in inter-regional political tensions. While some agricultural policy issues bring Canadian sectoral interests together behind a common banner, just as frequently policy prescriptions are sharply divided along regional lines, and even within regions and provinces. The principal differences relate to the extent to which governments allow markets to direct agricultural activity and to distribute income. In agriculture this translates into differences over removing support tied to commodity production as compared with individual producers, deregulation throughout the market chain, and the level and sources of income transfers. The speed of technology advance and the protection of the consumer and the rural situation are also important issues. There are especially sharp differences over the extent of federal intervention in the dairy, eggs and poultry, and cereals sectors. Concerns are raised that deregulation exposes these producers to the excessive marketing power of input, distribution and grocery corporations.

The basis for sharing in federal income transfers is extremely contentious with Manitoba, Saskatchewan and the Atlantic provinces pressing for distribution based on need. The Alberta government, with some support in other prairie provinces, is seeking to limit CWB monopoly powers in the handling, transportation and marketing of grain. Central Canada wishes to maintain tight regulations for production, pricing and marketing of dairy, poultry and eggs in the face of pressures from the Western Provinces for higher production quotas. Looking toward further trade negotiations, the export-oriented sectors of

the prairies are pressing for greater market access and further reduction of domestic subsidization by such trade competitors as the US and EU. Thus they are concerned that the pressures of Central Canada to maintain protection for dairy and poultry may jeopardize their objectives. And the less-populated provinces express great concern over the impact of rapid adjustment in agri-foods on their rural areas. Finally, differences emerge between provinces and the federal government in trade policy in general and trade disputes specifically. The ability of intergovernmental mechanisms to manage all of the above issues is becoming strained (on the latter point, see the discussion below on current intergovernmental mechanisms).

Canadian Economic Union

Increasing global and regional integration of agricultural markets and the need to be competitive within them, has driven Canadian governments to consider the degree of integration of our domestic market. Thus the reform of the Canadian economic union itself becomes a significant policy factor, although the pace and substance of change has been driven more by international developments as such.

Obstacles to interprovincial trade in the more protected agricultural sectors inhibit regional integration of food systems. All of the provinces signed the Agreement on Internal Trade (AIT) in 1995, which commits governments to eliminate technical barriers to trade in agriculture and food products over time. However, the AIT does not cover all agricultural policies. And some provinces are resisting requirements to remove some restrictive regulations, such as Quebec with respect to coloring margarine. Supply management systems still balkanize the Canadian market for dairy, eggs and poultry products. The AIT calls for negotiations on freer Canadian trade in dairy and poultry once WTO negotiations were completed. But with the WTO regime now in place, domestic negotiations seem to have stalled.

In other key examples, the Canadian Wheat Board still controls much of the marketing of wheat and barley for domestic consumption. The provincial controls over alcoholic beverages are only covered by the AIT to the extent necessary to comply with WTO provisions for national treatment, and to reconcile certain standards. Consequently important obstacles to interprovincial trade in agriculture and foods persist. While globalization and international trade commitments are key influences in freeing up internal trade, some provinces, and particularly Quebec, are seeking autonomy in food matters.

2.3.2 Canadian Governance: Institutions and Processes

Constitutional Framework

Under the original federal constitution of 1867, agriculture is one of a very few areas of concurrent (or shared) jurisdiction (Section 95). This means that both the federal and provincial legislatures may pass laws in relation to agriculture, although in the event of a conflict, the federal law would prevail. This concurrent power, twinned with the concurrent power in immigration, enabled both governments to cooperatively plan and implement land settlement in the nineteenth century. For the past century, however, the jurisdictional division favoured by the courts has been between federal regulation over trade and commerce, and provincial regulation over property and civil rights, leaving little room for a special exercise of agriculture jurisdiction as such. This has meant that federal jurisdiction came to cover all matters over interprovincial and international trade in agricultural goods, leaving the provinces to legislate over land matters and local marketing arrangements. The one area that could not be disentangled, is the significant field of national supply management regimes (i.e. marketing boards). In 1951 the Supreme Court of Canada upheld a cooperative legislative scheme for egg marketing and other product management, even if it blurs the distinction between federal and provincial jurisdiction.

The relative fiscal capacities of each province and the federal government also influence policies and governance arrangements. Both orders of government have access to major tax sources and have considerable ability to spend and to borrow to meet wide-ranging expenditures, although there are significant differences among the provinces in their fiscal capacities. Moreover the federal government also claims a constitutional spending power that enables it to spend in areas outside its formal regulatory jurisdiction. Thus federal spending has been an important factor in agriculture, particularly as part of rural development and regional expansion programs from the 1950s to the 1980s.

There have been constitutional challenges and serious conflicts related to agriculture between the two spheres of government, and among the provinces. The majority has been resolved outside the courts by joint federal-provincial programs and arrangements. In reality, then, the division of powers and responsibilities for agriculture and foods is ambiguous and both levels of government are usually involved either directly or indirectly in the policy process. Thus both orders of government have ministers of agriculture, although in some cases the portfolio is combined with fisheries, forestry or rural development. Both have had, for many decades, departments of agriculture; and both maintain complex relations with agriculture and agri-food interests. Program responsibilities between the two orders of government do not appear to overlap excessively, indeed there is a good deal of operational cooperation. Nonetheless, the constitutional concurrence of agriculture (defacto and dejure), means that federal and provincial governments compete to best meet the needs of the agriculture and agri-food sector. This competition is seen most strikingly in Quebec.

Federal and Provincial Government Organization

Within the federal government, Agriculture and Agri-Food Canada (AAFC) has the principal responsibilities for the sector and Foreign Affairs and International Trade (DFAIT) has the mandate for overall coordination of external economic and trade interests, including multilateral and bilateral trade negotiations. The Department of Finance is responsible for managing general economic policy, fiscal and financial matters, and the customs tariff, giving it an important role in agriculture and food policy. Industry Canada has the lead responsibility for policies related to the industrial sector, sharing this role with AAFC in relation to the food and beverage industries. There is now a Minister of State for rural development, attached to AAFC. Other federal departments with an important role for the sector are Natural Resources Canada whose Minister is currently responsible for the Canadian Wheat Board, Transport Canada and Environment Canada. These departments are responsible for numerous acts and programs related to the agrifood sector that are administered directly, through federal agencies, or jointly with provinces. The more important in terms of agricultural governance arrangements are:

- Agricultural Marketing Programs Act
- Net Income Stabilization Act
- Canadian Dairy Commission Act
- Canadian Wheat Board Act
- Export and Import Permits Act
- Food and Drugs Act
- Canadian Transportation Act

There is also legislation for specific agricultural inputs and services such as feeds, fertilizers, livestock, seeds, and pest control. Other federal legislation provides support to agriculture for prairie farm rehabilitation, Atlantic and Western diversification, and research and agri-food trade.

Provincial departments of agriculture vary widely across Canada, given the differing sizes and diversities of provincial farm and agri-food sectors, and approaches to government intervention. All departments now deliver fewer programs and much less dollars directly to producers, than in the recent past. Nonetheless

certain provinces such as Ontario and Quebec would rival the federal AAFC in scope and sophistication of programs and staff. All provinces maintain responsibility for core programs such as supply management (although through arm's length regulatory agencies), crop and livestock insurance and income assistance. All provinces also deliver a wide range of technical services to farmers, increasingly on a cost-recovery basis. Either in conjunction with other government departments or on their own, agriculture departments are also involved in trade promotion, market and product development, and technology transfer; with land management and environmental monitoring and regulation; with research and development; and with manpower training.

Horizontal Coordination

As agriculture has become integrated through the food chain and with other sectors of the economy, more federal and provincial departments are involved in policy development. While most of these institutions reflect traditional policy structures, the interrelationships between agriculture and investment policies, the environment, rural development, aboriginal affairs, and research and technology are leading to new horizontal governance arrangements. There are groups and secretariats organized to coordinate policy formulation across disciplines and departments. An early example was the Federal Advisory Group on Grains (Grains Group) established in 1970 and now integrated into AAFC. More recent examples are secretariats for climate change, rural issues and biotechnology. Similar governance structures exist at provincial levels. Both the federal and provincial governments delegate powers to marketing boards and other agencies to enable them to conduct a range of activities relating to managing supply, marketing, pricing, financing, inspection, grading and food safety.

The principal federal agencies in relation to agriculture and foods include the Farm Credit Corporation, the Canadian Wheat Board, the Canadian Dairy Commission, the Canadian Grain Commission and the Canadian Food Inspection Agency. These agencies work with the provinces and sectoral organizations to achieve their objectives. The recently established Canadian Food Inspection Agency and Canadian Environmental Assessment Agency are examples of institutions organized on horizontal lines to administer regulations on food health and safety, and the environment.

Intergovernmental and NGO Relations

The formal federal-provincial consultative structure for agriculture and food is led through an annual conference co-chaired by the AAFC Minister, and a Provincial Minister on a rotation basis. Deputy Ministers also meet semi-annually. The agendas are developed jointly. A Committee of Federal-Provincial Assistant Deputy Ministers meets bi-monthly directly or by tele-conference. The meetings at the three levels are held annually and semi-annually, and as required. A similar formal structure is also in place for trade matters, chaired by DFAIT and provincial representatives. Additional federal-provincial committees are in place to address other matters such as marketing, food standards and regulatory matters. Ad hoc arrangements are organized to deal with special issues and developments, which may include non-government organizations (NGOs).

Several farm/industry councils and committees have been established by the federal government comprised of representatives from farm and business organizations and agencies to provide regular advice on food related matters such as:

- National Farm Products Council
- Canadian Agri-Food Marketing Council (joint with DFAIT)
- National Agricultural Environment Committee
- Canadian Agricultural New Uses Council
- Canadian Adaptation and Rural Development Councils

Overall there are more than sixty national committees in place in the agri-food sector for policy, marketing, research and other advisory purposes. To this extensive institutional structure

must be added the growing numbers of private and non-government organizations including farm and business groups that participate in policy development and the operations of departments and agencies, often through formal program delivery partnerships.

Integration, economic specialization and communications technology have greatly widened the consultative process both with governments and with non-government groups and agencies, many of which operate across borders. New networks and coalitions are developing in the agri-foods to influence policy evolution and institutional behavior. This is particularly evident for issues relating to the environment, food safety and genetically modified foods (GMOs), biodiversity, corporate behavior and rural welfare. While the broadening and fragmenting of the policy process is increasingly democratic, the ability of governments to respond to issues in the agri-food sector is much weaker. Increasingly the consultative process between federal and provincial governments in agriculture is focused on money transfers, cost-sharing, trade policy and trade disputes.

Federal-Provincial Relations on International Issues

Of particular concern to this paper are intergovernmental relations on international policy matters given the importance of trade to the Canadian sector. In all formal foreign policy matters, the federal government takes the lead as it is the only body that can accept obligations on behalf of Canada. Consequently in such agricultural matters DFAIT has the prime responsibility and involves AAFC and other departments, agencies, provincial governments and non-government agencies through consultation, joint activities or delegation. For binding trade agreements, the consultation process is broad, informal but highly organized. In areas of shared jurisdiction, extensive consultation with the provinces occurs before obligations are accepted. For agri-foods the more sensitive issues include supply management policies, CWB operations, liquor board

marketing and farm support programs. Less structured consultations take place with farm, business, and other non-government groups. This activity is increasing as a wide spectrum of interest groups become involved in the process. As noted, the agri-food sector attracts a broad range of civil society interests and concerns given the linkages to the eco-system, biotechnology, human health and animal welfare.

All provinces, to a greater or lesser degree, are involved directly in international activities in the agriculture and agri-foods sector. Chiefly their role is in trade and investment promotion, whether through general programs or those tailored to agri-food products. These activities in general complement the federal role, and there is seldom serious friction, as compared with trade policy matters, and the management of trade agreements and disputes. Another growing provincial role is direct formal and informal relationships with US State governments on common trade issues and exploring ways to resolve disputes. The most significant of these is the Provincial-State Advisory Group (PSAG) under the 1998 Canada-United States Record of Understanding on Agricultural Trade.

Despite the extensive consultative process, serious differences occasionally emerge in federal-provincial relations, particularly over trade disputes. Since implementation of NAFTA and the WTO Agreements, disputes over liquor board mark-ups, tariffs on supply managed products, CWB practices, US countervail, and plant and animal diseases, have given rise to federal-provincial tensions and interprovincial rivalries. In many cases, these disputes signal the need for further negotiations and rule-making between nations, or additional consultations within Canada to reach common positions among provinces and with the federal level.

While the pace of such disputes seems to have leveled off in the late 1990s, there has been a steady stream of them since the early 1980s. They have been managed, although not without sharp political controversy on occasion, including intergovernmental aspects.

Nonetheless, the issues are often complex and

difficult, and common approaches are extremely illusive. And there is little evidence of new forms of governance emerging to manage the federal-provincial relationship when dealing with international issues.

2.4 Summary of the "Base Case"

The preceding discussion can now be summarized as a set of stylized facts to form a base case in the year 2000 for the four scenarios to 2015 that follow.⁶

Global Context

- ♦ The overall logic of the international system is a widening and deepening system of economic integration, driven by economic liberalization in virtually all countries. This extends less comprehensively to agriculture and agri-foods but is starting to have real bite. The regional integration regime of NAFTA is also significant, especially in the processed food sector. Globalization advocates seek a further strengthening of the liberal trade order through the WTO, but globalization critics seek to slow down, halt and or modify integration, to take into account broader social and environmental concerns.
- ◆ Canada is an important player in the international agriculture liberalization movement, seeking an end to trade-distorting measures, particularly in the EU and USA. Canada's position is compromised by its protected supply management system for dairy, poultry and eggs, and state trading but is on a longterm track of adjustment.

The Canadian Agri-foods Sector

Commodity production is still the most important aspect of the agri-foods sector, led by grains and oilseeds, red meats, and poultry and eggs. The commodity sector is highly dependent on international trade across a much more diverse set of markets than just the

⁶ This base case is not extended to 2015. To do so would require answering too many assumptions that are more usefully done within the four scenarios already chosen for this project. The base case is nonetheless useful as a benchmark for *current* practice and policy to compare with the future scenarios.

- US, while food product exports are more concentrated in the US.
- ◆ The primary sector as such has been consolidating for some years: the truly dynamic end of the sector is in food processing and specialized products for market niches, with value-added vertical integration. Rising farm productivity and size, lower farm population and the long-term decline in commodity prices are having a severe social effect in rural communities, especially the prairie grain growing areas.
- ◆ Agriculture remains a sensitive regional issue given persistent production and development differences among the provinces, and their different international trade positions, fiscal capacities, and orientations to market intervention. In the past decade regional tensions on issues such as income support and trade liberalization has required significant intergovernmental management.

Governance Challenges

- ♦ Government policy on agriculture in Canada is dominated by the need to speed the transition to international liberalization, and the move to value-added agri-business, while ensuring a degree of social stability and income support in the farm community. Most governments through their agriculture departments still provide considerable infrastructure and technical support to the industry, some through industry partnerships and cost recovery. Direct assistance tailored to specific commodity producers has been dramatically curtailed as a result of tighter international subsidy disciplines but also, and more importantly, as a result of domestic fiscal retrenchment.
- ◆ Governments maintain extensive industry and intergovernmental networks. Federal-provincial relations are complex and time consuming but somewhat ad-hoc. Governments continue to compete in their programs, although severe overlapping and duplication has been curtailed. In recent years, they have avoided comprehensive, binding

cooperative agreements, although on specific issues such as income "safety net programs", a joint effort has been possible.

- ◆ Agriculture issues increasingly require a horizontal policy and organizational response. A key example is the emerging cluster of issues surrounding food safety, the environment and the impact of life sciences technology (e.g. GMOs). Policy solutions require coordination across ministries of health, environment, consumer protection, business regulation and international trade, among others.
- ♦ In summary, there is widespread evidence that federal leadership in agricultural policy formulation and governance is eroding, as is the role of the state overall. Many new interests and groups have emerged to press their agendas on agricultural governance arrangements, often on the basis of networks that extend well beyond national boundaries. The integration of economic, social and ethical interests across all levels of society and government has been accompanied by a fragmentation of the agricultural policy process in Canada. Canadian domestic governance of agriculture and agri-foods is more extensive, complex and fractious, but its future directions are uncertain.

3.0 Future Scenarios for Agri-foods

Four scenarios have been developed to describe how the driving forces of global and regional integration may influence the world we live in by 2015. They are shaped by forms of integration and rules and controls of governance systems that vary in effectiveness. In these scenarios, the principal driving forces of integration that place pressure on economies and governing structures are summarized as:

- demographics, mobility and urbanization
- national cultural identity
- geo-politics and security
- democratization
- technology advances: information and "bio"
- consumer trends

- proliferation of communications networks and access
- economic market liberalization and competition
- international organizations
- business dynamics and multinational enterprises (MNEs)
- NGO influence

The four different scenarios that emerge from the interaction of integration and governance, and the logic of their development and general characteristics are summarized as:

- Global Club in response to a series of global "crises", a powerful club forms to provide orderly, effective, decisive global leadership with the following characteristics:
 - ◊ a concentration of wealth and power
 - highly regulated global standards and rules including on biotechnology issues
 - ♦ a "free market" within rules
 - selected international organizations become instruments of power
 - ♦ importance of interdependence is recognized
 - ♦ an orderly, prosperous global economy
 - rising living standards, but rising income disparity
 - increased global integration
- Shared Governance a series of global crises leads to the strengthening of global institutions and multilateral mechanisms which include NGOs, MNEs and other actors, characterized by:
 - principles of interdependence, equality and responsibility are recognized
 - diffusion of economic and political power through formal and informal rules and networks
 - international organizations gain credibility and influence
 - an explosion of organizations, local to global
 - ♦ moderate economic growth

- ♦ policies reduce economic disparities
- strong local communities and social cohesion
- increased political, economic, social and technological integration
- Cyberwave frenetic technological change outstrips the ability of public institutions and policy to respond in a timely and effective way, with these characteristics:
 - ♦ rapid, unpredictable technological change - "Edge of Chaos"
 - ♦ issues (ethical, moral, legal, business)
 overwhelm legal and political institutions
 - ♦ "Ad hoc" reactive policy development
 - entrepreneurial, technology and consumer driven business and growth
 - an explosion of organizations and networks
 - wide technical and income disparities
 - ♦ global "horizontal" integration
- Regional Dominators reaction to a series of crises leads to security concerns, protectionist policies and formation of mercantilist blocs, as follows:
 - ♦ geo-political blocs NA, Europe and "Asia"
 - ♦ mercantilist, protectionist policies
 - ♦ proliferation of bilateral agreements
 - ♦ MNEs highly influential in blocs
 - ◊ reactive, aggressive, confrontational, "win-lose" behavior
 - ♦ low, uneven, cyclical growth
 - ♦ wide economic and social disparities
 - regional integration and global fragmentation

These alternative scenarios would affect agriculture and the agri-foods industry in strong and different ways globally and within Canada. Since governments have been directly involved with the sector's development in all regions of the world, and more extensively in some countries, the impacts of changing scenarios are likely to be more profound than for other sectors.

The following sections describe the scenarios in terms of agriculture and agri-foods and contrasts how the Canadian sector is likely to be affected. Each discussion is separated into six subsections covering: 1) an overview; 2) the evolution of the scenario; 3) the structure of international power and governance; 4) economic growth and trade; 5) domestic governance and civil society; and 6) social and rural implications. For a summary of the main characteristics of the four agricultural scenarios see Figure 1.

3.1 The Global Club

3.1.1 Overview

The agriculture and the food industries of 2015 operate in a highly regulated world in which the power and influence of a few dominant countries, led by the United States and the enlarged European Union, shape policies, institutions and international rules and standards. In the wake of a failed WTO Round and a renewed trade and policy crisis, a US/EU brokered WTO deal was virtually imposed in 2008 with the adherence of most other major trading countries. An orderly and relatively prosperous global economy encourages steadily expanding markets for food and industrial fibres based primarily on North American and European tastes and practices. Rapid trade liberalization occurs, with some exceptions. But the policy environment is one of managed growth and trade, reflecting a balance between the North American and European market-oriented models for the agriculture and food industries. Trade in value-added products, including GMOs, is much stronger than the commodity business.

The European Union has expanded to incorporate most of the central and eastern European nations and several Mediterranean countries. The agricultural resources and trade of this enlarged entity now rival North America. The US market-driven system is dominant but there are exceptions reflecting the political clout

of the European Union, and Japan. Russia continues to struggle to put its house in order and meet its own food requirements, and has limited influence on international policies or industry directions. China's role is much greater but it remains a lessor player in the Club as it strives for food security, and seeks to balance the influence of Japan and India by lending support to developing countries. Economic growth in much of Pacific Asia is strong. Latin American countries greatly improved their position in the agri-food world by aligning themselves to both the US and Europe, but their effort to ride two horses has left them with diminishing influence within the Club. Canada had no option but to follow the American lead, and much of its agriculture and food sector has become integrated with theirs, and has done well. Most of Africa continues to struggle with civil unrest and debt, cannot yet feed itself, and relies on food aid and technical assistance to develop and to meet periodic emergencies.

Under US/EU leadership, a strong rules-based framework is in place for agriculture, effectively managed through the WTO, and backed by the IMF and World Bank. Environmental rules were imposed in parallel with trade rules, and standards for food safety, genetic manipulation, and other contentious issues followed. Research, investment and technology in agriculture was promoted, giving MNEs a major role. The existence of a strong global regime helped stabilize the investment climate for the expanding "life sciences economy". The influence of NGOs in agri-food policies and trade negotiations has waned.

Canadian agriculture adjusted completely to a North American pattern under the dominant influence of the US in the Global Club. Strong US market competition forced Canadian agriculture to reconfigure itself into the most efficient economic model. The export oriented sectors fared best as their structures and operations were already integrated into the US corporate-led economy. Raw and semi-processed trade is "managed" under the influence of US-EU policy dominance and MNE contractual arrangements, and expands more slowly. Still, by

2015 international tensions and market uncertainties, driven by the destabilization of non-club member societies and the widening gap between have and have-not, have begun to erode the prosperity of the Canadian agri-food sector.

3.1.2 Evolution of the Scenario: Agriculture in Crisis

Looking back to the turn of the century, the failure of the WTO Ministerial Conference in Seattle signaled the emergence of a policy crisis for agriculture. In the Uruguay Round governments had agreed to continue "progressive reductions in agricultural support and protection" through further trade negotiations to begin by 2000. But pressures from developing countries for effective access to wealthy markets, a growing protectionism in the US, and widespread protests from labor, environmentalists and special interests groups against freer trade, multinational corporations and biotechnology, blocked the launch of a new WTO Round. Although governments were committed to initiate agricultural negotiations in the WTO, and did so, the talks stalled. A comprehensive multilateral negotiation was essential for a broadly-based agricultural settlement, and successive attempts to launch a new Round failed.

Agricultural commodity markets remained depressed and agri-food trade grew slowly. With the lapse of the Peace Clause in 2003 which had held agricultural trade challenges in check, renewed tensions led to widespread disputes. The NGO threats to block trade over a myriad of concerns including the environment, GMO foods, animal rights and species preservation, compounded the difficulties experienced by the agri-food sector. The existing agreements and institutions were inadequate to cope with the emerging crisis in agriculture, and widespread dissension prevented the negotiation of new rules and standards.

As in previous stalemates in agricultural trade negotiations, the US and EU brokered a broadly-based deal under the aegis of the WTO, with side agreements for non-trade issues and standards. The potential benefits of a viable trade,

investment, and technical standards settlement, and the risks of holding out, were sufficient to overcome a developing country veto and to gain the adherence of other major trading countries. This resulted in WTO dominance in agricultural trade and policy development, complemented by similar centralized controls of the international financial system under the IMF and World Bank. A Global Club based on the US/EU compromise deal emerged. The threats from newer issues of the environment, labor, GMO foods, biodiversity and animal welfare forced the Club to virtually dictate new rules and standards in these areas, and to enforce regulations and control. Lesser states had little option but to align their systems with those of the Club. The use of the WTO institutional machinery for agricultural policy management provided the less powerful nations with at least the appearance of participation in the governing processes.

3.1.3 The Structure of International Power and Governance

Governments of the dominant members of the Club and their close allies -this includes Canada-- are highly influential in international policymaking. National governments that favor integration and open economies play a significant role but those opposed are marginalized. Thus, for agriculture, the US and EU monopolize farm policy evolution through the WTO/IMF/WB framework and those relatively few international institutions responsible for specific issues such as food standards and the environment. This US/EU policy partnership is not an easy one in agriculture since the expanded Union must cope with serious adjustment problems that differ between western and eastern European countries, and in relation to Mediterranean agriculture. The compromise is based on the US commercial model, tempered by the multifunctional nature of European agriculture. Nonetheless, the policy direction is clear, toward industrial agriculture in an open economic environment with substantial transfers to ease adjustment. This is achieved on a sector by sector basis.

The US/EU monopoly of agricultural policy evolution and trade disciplines was exercised

primarily through the WTO Committee on Agriculture and the SPS Committee. Rules and standards for non-trade issues were established through separate Protocols and Councils and enforced through the WTO in relation to trade. This strong, rules-based system was designed to promote global integration and an open flow of trade, investment and technology. In addition to the US/EU leadership, the junior Club players for agriculture included the Cairns Group led by Australia, Japan, China, India, the ASEAN countries led by Thailand and Indonesia, Latin America led by Brazil and Argentina, and Russia. The involvement of the Middle Eastern countries remained fragmented, with only Egypt and Iran having much input in food matters. Although the Asian countries, Brazil and Russia were reluctant to accept the fully market-driven system that dominated North American and European agriculture, their need to achieve economic growth and food security generally overcame their resistance. The less developed countries of Africa and other regions were marginalized in the process but acquiesced for similar reasons.

The conclusion of the new "Millennium" Round in 2008 – imposed by the Club – included commitments to achieve free trade for most of agriculture immediately or by 2012. Longer transitions were allowed for sugar, rice, fluid milk, and limited restrictions could be applied for food security purposes. Export subsidies and direct market interventions were progressively eliminated. Farm support was decoupled from production and markets, but transfers aimed at easing the transition from "family" to "commercial" operations were allowed to continue. The EU, US and Japan still provide substantial subsidies to agriculture, clothed in objectives to promote adjustment, conservation and the environment, and rural development.

Enlargement of the EU to include Central and Eastern European countries was also achieved by 2008. The Latin American countries strengthened their regional integration arrangements, and maintain relationships with both Europe and the US. In North America, NAFTA remains in place although its role in agriculture has declined. The FTAA (Americas) initiative led to a framework

arrangement that continues to function as a consultative mechanism. Formal Pacific integration did not proceed but an APEC structure is in place for regional consultations. China plays a stronger role in the region, balanced by Japan and India. The development and governance arrangements for Canadian agriculture continue to shift to a north-south orientation as the sector becomes more fully integrated on a continental basis.

3.1.4 Economic Growth and Trade

The agri-food sectors in most economies are relatively prosperous, with the exception of the marginalized, less-developed regions. The valueadded product sectors do well, particularly livestock, specific cereals, oilseeds and specialized crops that are produced to precise standards for highly segmented markets. The continued integration of human activity is reflected in an ever-widening diversity of foods and services. The supply managed systems are gradually phased out under US/EU policy pressures and WTO rules. After a period of adjustment, output of dairy and poultry products in Canada increases. Despite strong resistance to these changes in Central Canada, and particularly in Quebec, the region is now a net exporter of these products. The CWB monopoly position is also removed but the agency continues to function as an integrated farmers' marketing cooperative. This change has little impact on the volumes of grain produced or traded, and greater market segmentation develops, encouraging processing, food services and product trade. Western resistance to a weakening of CWB marketing powers gradually eroded as commercial operators demanded greater control over the marketing decisions. A shift in policies toward regional adjustment assistance and rural development eased the political strains of these changes.

Overall, the economic outlook currently projected by most institutions (OECD, FAPRI, IFPRI and AAFC Baseline) for agricultural production and the food trade is realized or exceeded by 2015. There has been a long-term recovery, underpinned by gradual improvement

in the Asian, Latin American and transitional economies. World crop prices slowly recover from the lows of the late 1990s, but the long term decline in real prices for agricultural commodities continues. Vegetable oils, livestock products and other semi-processed foods fare somewhat better. The more specialized consumer-ready foods do well. By 2015 the bulk of agricultural production is tied directly into food systems driven by MNEs. With continued stimulation from income subsidy transfers, US and EU agricultural output and exports dominate world markets. The more cost efficient food exporting countries continue to struggle against the dual problems of domestic US/EU subsidies and over-supply. Global trade expands only gradually as "free" trade is managed and regulated by the Club and MNE arrangements. The food deficit developing countries have little influence, and experience slow economic growth, and with expanding populations, and continuing rural poverty and periodic food shortages. Technology and markets drive the sector, and value-added activity is paramount. The role of MNEs is enhanced in all aspects of the food and fibres sector, particularly for investment, technology transfer and the composition and direction of trade. Research is conducted mainly by the private sector, working jointly with Club institutions. The agriculture and food sectors in most countries have adjusted to a commercial and product trade structure.

3.1.5 Domestic Governance and Civil Society

The direct intervention of nation-state governments in the agri-food market has virtually disappeared by 2015. Most of European agriculture has operated at US price levels for nearly a decade. The dairy sectors were not far behind at the processing levels but fluid milk prices are still regulated in Western Europe and subject to marketing orders in the US. However, direct subsidy transfers continue at significant levels in the EU and US to ease structural changes, compensate for cyclical downturns in commodity prices, and for environmental and rural improvements. Japan and Korea also continue to slow their structural adjustment toward commercial agriculture with subsidy

transfers for rural areas. China plays a significant policy role but is mainly concerned with meeting its own food requirements while modernizing its rural areas. Most other countries with limited financial resources rely on cost reductions. diversification and specialization, to maintain their farm and rural sectors. The Cairns Group of countries including Canada still exert some leverage on agri-food policies and institutions but mainly in support of the US leadership role. There have been occasional attempts by countries left out of the policy circle to go their own way, particularly by countries in Asia and Latin America, but the pull of markets, and the needs of food security, have neutralized these occurrences.

Canada has experienced diminishing policy flexibility and closely adheres to US/EU rules and standards as implemented through the WTO and a few other international institutions. There is some scope for bilateral arrangements with the US, and alliances and managed relations with other members of the Group, but this is insufficient to sustain exceptional treatment for supply management policies and the CWB monopoly. As US contingency protection legislation remains in place, Canada is forced to limit shipments of some agricultural commodities to that market. Canadian subsidy transfers and direct market interventions in agriculture have almost disappeared. Provincial policy leverage and financial capability is weak, and only within regional market areas are provinces somewhat influential. Although Quebec strongly resisted the erosion of provincial policy leverage for political purposes, their agri-food sector increased its diversification, aligned its interests with the US, and successfully exploited its strong agricultural position in the US-Atlantic region.

Canada has a limited role in the international regulatory system for agriculture. Canadian agriculture has gradually shifted to a north-south orientation, which increasingly influences the shape and preoccupations of governance. While weak in an international sense, the federal government is more dominant over the provinces in this scenario because it must ensure that global club rules are enforced if its standing in the club is to be maintained. Most federal/provincial

collaboration mechanisms are sustained through efficient communications networks, but their influence is modest. Instead similar structures have evolved on a Canada/US basis, including limited regional coordination across borders. There is some "clustering" of interests as joint public/private structures have emerged on a bilateral and sub-regional basis to coordinate development of common policies, regulations and standards. While international institutions are still used by Canada to increase leverage on US policies and practices, they are now less effective, and in only a few areas can Canada align itself with Europe (or Latin America) to influence the US regional dominance.

The multinational corporations play an enhanced role at all levels in the regional food chain and on a global basis. There is convergence and coordination of financial and corporate regulations, MNEs are key players across Club zones, and are active with investment and technology transfers in all regions allied with Club leaders. As a consequence, the Canadian agri-food sector is fully integrated into continental food systems, with some involvement off-shore. While NGOs participated in shaping the policy environment for agriculture, the emergence of Club rules with codes and standards enforced by them has weakened their influence.

3.1.6 Social and Rural Implications

The US/EU compromises that led to the Club included a commitment to address environmental and food safety concerns on an urgent global basis. A new Eco-Protocol imposed strict regulations on the agri-food sector, including chemical use, livestock pollution, GMO foods, greenhouse gas emissions, and land and water use. A new strong focus on "green and clean" agriculture, with strictly enforced global standards, proved of some benefit to Canada's agri-food sector, including a new emphasis on northern agriculture.

However, rapid trade liberalization, US policy dominance, and the need to compete with processed products, accelerated the exposure of Canada's protected sectors and institutions. The pooling (price averaging) of CWB grains and marketing controls were gradually removed. Some transition assistance was given but rural tensions increased. Trends to rural depopulation and decline of the past 20 years, especially in the prairies, bottom out by 2010. As populated regions had greater scope to diversify and differentiate their production, these shifts added to growing regional dissension within Canada.

There are also occasional political and economic flare-ups between Club members, as some states, provinces and regions are left on the sidelines. Trickle down development is insufficient to satisfy the lessor players and their consumers, and tensions are evident and growing, particularly in non-Club countries. The resulting uncertainties and widening market swings are adversely affecting agriculture. These developments have begun to erode the prosperity of the Canadian agriculture and food sector by 2015.

3.1.7 Summary of Changes from the Base Case

By way of summary, the following points may now be made to distinguish this scenario from our current context – i.e., the base case described at the end of Part 2 above. For a more complete discussion see Part 4 below.

Global Context

 The international community emerges from a global trade and economic crisis through a set of rules imposed by the strongest economies, forming the "Global Club". The result is a stronger increase in agricultural integration and trade liberalization, including rapid growth in the agri-foods sector. Canada is a junior player in this international regime with diminishing flexibility over policy and regulatory matters.

The Canadian Agri-foods Sector

 Canadian adjustment to the international agricultural economy is virtually complete, following the North American, vertically integrated model. Processed food sectors thrive; commodity producers, if they survive the initial adjustment, do less well.

Key Governance Challenges

- Facilitation of adjustment, including the diversification of rural economies.
- Sustaining the agricultural resource base.
- Promoting acceptance of a less interventionist policy role.
- Ensuring that Club imposed rules are adopted and adhered to.
- Managing tensions with civil society in the face of reduced international civil society influence.

3.2 Shared Governance

3.2.1 Overview

Based on a comprehensive Millennium Round outcome, the major economic powers were forced into compromising through stronger international rules and institutions, resulting in less subsidy support and surplus food production in high income countries. The greater balance between national aspirations and economic development in this democratic scenario is reflected in slower but more broadly based and accelerating growth in agriculture and food throughout the globe. There is relatively faster expansion in output in lower cost regions, including Canada. Trade liberalization is more gradual, but investment and technology transfer is encouraged and broadened by the security of credible international rules and institutions. stimulating the rural areas in less developed countries. The greater influence of NGOs complements the efforts of governments to encourage economic growth in poorer countries. By 2015 the agriculture and food industries of China, South Asia and Latin America are emerging as strong drivers in their economies, and the source of exports of specialized commodities and prepared foods. While the agricultural output in Western Europe and the US has stabilized or declined, the position of the agriculture and food sector of other traditional exporters (Argentina, Australia, Canada, New

Zealand and South Africa) is stronger. The agrifood sectors of Central and Eastern Europe, now part of the EU, are expanding. Even Russia and Ukraine have managed to get their farm and food sectors on a growth pattern, helped by international cooperation and less competition from EU subsidized food output.

Through an extended WTO Agreement on Agriculture, free trade is achieved for agriculture on a sector by sector basis by 2015 but with a longer transition for sensitive products. The Agreement incorporates technical and financial assistance for less developed countries. International rules and institutions dominate policy development in trade, investment, standards and non-economic matters related to foods. Commodity and processed food trade expands more rapidly in this scenario largely in response to higher effective demand in the developing world and a more diverse diet elsewhere. Debt cancellation, more international financing and better access to industrial markets for their consumer products, raises incomes in developing regions and allows food deficit countries to improve their diets. Technology transfer and technical assistance is more forthcoming in this disciplined environment. The higher demand for protein in developing regions stimulates agricultural trade to the benefit of the more efficient export regions of the Western Hemisphere, Australia and parts of Africa. Asian countries, and even China, rely increasingly on food imports using more of their resources to encourage production of higher-valued consumer products.

Farm policy reforms are widespread in this scenario but the adjustment process moves more slowly. Most governments are able to maintain some protection and subsidies for sensitive sectors, or to extend the period of transition. Even technology transfers, investment and productivity gains occur more slowly as greater attention is given to the risks for the environment, health and animal welfare as reflected in transparent regulations and strict standards. More emphasis is given to the trade effects of these and other concerns, including income equity, ethical considerations, human

rights and labor, although there are international institutions to deal with some of these matters. But new issues have emerged such as genetic preservation and the management of water resources. The world continues to move toward an integrated, market-driven global system but at a reduced and more balanced pace. Global policies for agriculture, as well as international rules and regulations for the environmental, species preservation, and social sensitivity in the food sector are a reality by 2015.

3.2.2 Evolution of the Scenario: Building a Consensus

The experience of the failed Seattle Ministerial convinced world leaders that a much broader approach was necessary to achieve international economic and political order. The key governments had virtually agreed on the approach to renewed agricultural negotiations, including the need to address the concerns of developing countries and smaller economies, and newer issues of the environment and food safety but a comprehensive Round was essential for meaningful progress. So as governments proceeded to develop the political basis for a broad WTO Round, agricultural interests moved to contain the disputes over beef hormones, bananas and GMO foods, and to prepare the public for a further major tranche of agricultural trade reforms. For the EU this was an essential element of their approach to enlargement. For the US, agricultural exports provided the only path to growth in the sector. Most other countries recognized that disciplining the subsidies and protectionism that was endemic in EU and US agriculture was imperative for the future prosperity of their own agri-food industries.

A successful WTO Round with a major agricultural component was concluded in 2006. While it was comprehensive, and designed to achieve free trade for the sector, the negotiators had adopted a pragmatic approach. Sectoral free trade was to be in place by 2015, beginning with cereals, oilseeds, fruit and vegetables immediately, followed by dairy and poultry products, and all processed foods by 2010. Only the most sensitive sectors of sugar, rice and fluid

milk, were allowed a longer transition. The SPS Agreement was strengthened. Special treatment was agreed for developing countries with food security concerns. In addition to the removal of trade barriers for products of less-developed economies immediately, the Agreement included debt-cancellation, and technical and financial assistance to improve infrastructure and rural economies. In parallel understandings, the governments were committed to pursue disciplines on the adverse impacts of agriculture on eco-systems and the environment, as well as protocols on genetic manipulation in agriculture, consumer protection in foods and biodiversity. In related areas of importance to agriculture, new rules and guidelines were agreed in the Round on corporate behavior, state trading and technology transfer in foods.

Although regional agreements lead in some trade issues, with success in obtaining most agricultural trade policy goals through the WTO, the efforts by Canada and others in the Hemisphere negotiate an FTAA languished. NAFTA was continued and South America, with Mexico, maintained formal ties with both North America and Europe. The Canadian food products sector was firmly tied to the US market, and only the vigorous and successful parts ventured far afield.

3.2.3 The Structure of International Power and Governance

With strong multilateral trade rules and democratic institutions, a level playing field gradually emerges for agriculture. To the benefit of smaller nations, the EU/US subsidies are forced out of their agri-food sectors, and investment and technology is broadly shared with the rest of the world. As a consequence, lower cost regions, including the Canadian Prairies, fare better. Institutional arrangements are stronger and national governments share their role with provinces, NGOs, business and consumer groups. However codes and standards emerge more slowly in this democratic environment, and many are relatively weak. Compared with the Global Club, there is less strict adherence to food safety, scientific codes

and behavioral guidelines. For agriculture a form of power-sharing emerges with US/EU leadership and special treatment for less developed regions.

The enlargement of the EU goes ahead but under more balanced and equitable arrangements. Agriculture improves in Eastern Europe, Russia and the Ukraine in the absence of EU and US subsidies. There is less pressure for formalizing regional integration, and FTAA and APEC processes proceed slowly. The influence of MNEs is contained, as they are subject to multilateral disciplines including competition rules. Japan has greater influence in these circumstances, but its agriculture remains protected in part, and adjusts more slowly. China, on the other hand, exerts greater influence, as does India and several other Asian countries. The Cairns Group is also more influential. The operation of the WTO trade dispute mechanism is strengthened, and US countervail and antidumping legislation are disciplined.

Canada used the WTO rules-based system to diversify markets, and with some success, particularly for oilseeds, special crops and red meats. The more regulated sectors, CWB cereals, dairy and poultry are less dynamic as limited innovation and corporate investment occurred. Nonetheless competition from product imports is gradually forcing greater openness and flexibility in these sectors.

3.2.4 Economic Growth and Trade

Agricultural policy reforms and structural adjustments continue but on a gradual and balanced basis. Freer international trade without subsidies is a stimulant to commodity prices, as well as encouraging investment, technology transfer and food processing. Growth in agri-food trade moves ahead in line with the current projections of major institutions, but at an accelerating pace. Production expansion is greater in less protected and lower-cost regions, including most Cairns Group countries, Eastern Europe, and even Russia and Ukraine.

Developing countries share in economic growth, giving a boost to their rural areas and improving food security. Chinese agriculture also expands

24

more rapidly under their WTO membership and the more secure environment for the flow of investment and technology. The Pacific-Asia food markets are stronger.

In Canada, the export-oriented sectors fared well in this balanced, less-subsidized and rulesbased environment. The Prairie Provinces. Ontario and Quebec benefited more, but all regions gained. The supply management sectors and CWB operations responded to the market developments at a slower pace since their lack of flexibility retarded innovation and value-added activity. Although the integration of the Canadian food industry on a North American basis was the dominant influence, it occurred less quickly in a more controlled policy environment. However, Canadian access to the US market is more secure as US countervail and dumping legislation is disciplined, hence long-term investment in the food sector has become more attractive and in 2015 strong, balanced growth is underway in all regions.

3.2.5 Domestic Governance and Civil Society

National governments enjoy a strong role under Shared Governance and their influence is strengthened through coalitions and broad consultative arrangements. This influence is shared with sub-national levels, and with business and NGOs. With the WTO role broadened, its influence grows gradually, complemented by regional integration. Compromises are necessary to reach most accords, consequently they emerge slowly for new interests such as GMOs, biodiversity, and the environment. Generally the rules and standards are weaker than in the Global Club as they must balance the interests of widely disparate groups and levels of development. This provides a somewhat less stable environment for the growth of biotech-intensive enterprises.

Under Shared Governance, MNEs are subject to tighter rules including competition, financing and technology transfer for agriculture. However, they play a strong role in the food sector with US corporations dominant in the Canadian market. Canadian interests are represented in most

corporate structures, and a few Canadian corporations are able to hold their own. There is also room for some smaller niche players in the segmented North American market.

While Canadian governance structures are adjusted to recognize the north-south reality, a more noticeable trend is toward global, multilateral rules, standards and institutions. By 2015 there are binding international agreements for trade, food safety, biotechnology, the environment and several non-food issues. The strong and influential Canadian role in multilateral policy-making puts greater power into federal hands compared with the other scenarios, but this power is shared domestically (and to some extent abroad) with the provinces and Canadian civil society organizations. The provinces' influence increases over time as formal linkages across Canada-US and provincial-state borders are expanded and improved, including many national and bilateral public/private arrangements. Some specialized issues are handled by specific Protocols and Joint Commissions. By 2015 these horizontal arrangements are beginning to alter the shape of international governance. This is most evident as provinces, states, NGOs and others form coalitions of interest around both regional and international issues.

3.2.6 Social and Rural Implications

Most international agreements take social, cultural and rural considerations into account either directly through exceptional provisions or conditional transitional arrangements, or indirectly through cross-compliance requirements. Since structural change occurs more slowly and adjustment assistance is often provided there is less friction over social and rural concerns. In addition global networking by interest groups has successfully stimulated social spending in countries that can afford to do so. This has also pushed nations to cancel the debts of developing countries and to enlarge their aid envelopes. Canada is an active participant in international programs to extend technical agricultural services and other forms of assistance to less developed regions. Canada's

own rural adjustment is more easily managed and creates less interregional tension than in the decades preceding 2000.

3.2.7 Summary of Changes from the Base Case

By way of summary, the following points may now be made to distinguish this scenario from our current context – i.e., the base case described at the end of Part 2 above. For a more complete discussion see Part 4 below.

Global Context

- In "Shared Governance" a genuinely multilateral approach to international governance, including agricultural trade, has considerable success. Economic integration and trade liberalization moves at a slower but broader and more balanced pace. In a context of multilevel governance and wider democratic participation, civil society organizations have greater influence.
- Canada is an important and influential player, able to promote broad agricultural liberalization, and to take the lead on environmental issues, including GMOs. The US and EU subsidy regimes are gradually controlled and Canada has greater policy and regulatory flexibility with respect to the US.

The Canadian Agri-food Sector

- Canadian adjustment to the international agricultural economy is slower and more balanced. Export oriented sectors do better, given the greater discipline on US and EU subsidies. There is somewhat less rapid integration to the US-dominated commercial market of agri-business firms.
- Social and rural adjustment to change is easier, facilitated by the strong role of farm and other social interest organizations at the global level.

Key Governance Challenges

- Management and coordination of multilevel governance in which subnational governments have an increasing role in global regimes.
- Major increase in consultative and deliberative arrangements with international and domestic networks of civil society organizations.
- Continued attention to (albeit more gradual) economic adjustment to a more liberal economic regime.

3.3 Cyberwave

3.3.1 Overview

Unrestrained technological development and the rapid application of new scientific discoveries have changed the face of agriculture in most regions by 2015. Agriculture has become a thriving producer of foods, fibres and services to rival other industry sectors. The restraints of government policies attempting to slow the rural adjustment toward commercial farming in developed regions were lifted a decade ago as uninhibited and instant communications led to widespread innovation, scientific farming, biotechnology and agro-industrial development at a pace that overwhelmed governments, and their policies and regulations. Farm and food production is largely automated through remote sensing and computer-controlled operations. Consumers and innovators are dominant. The sector – driven by the life sciences economy -- is an emerging source of industrial materials, medical components and energy.

The influence of borders, trade agreements, regulatory and corporate controls and standards have faded as consumers, users and producers demand and apply the latest findings to their local circumstances. Modern technology and communications are the driving forces. This race into the future overwhelms food safety, income equity, and environmental and social concerns. In their place is an innovative and uninhibited agriculture and food sector comprising vigorous, rapidly evolving, entrepreneurial commercial enterprises concerned only with ensuring that

they are first at the post to invent, apply and benefit from the latest wave of technology.

Canadian agriculture is fully integrated into a buoyant, rapidly changing North American landbased economy. Diversification at the farm level is a continuous process where bigness has given way to brightness and an entrepreneurial agroindustrial environment. Farmers manage their enterprises from "ground to user", for food, industrial and medical purposes. Commodity markets virtually disappear as transactions reflect positions, timing and services rendered within a food or product system, rather than prices and margins. The vast opportunities for innovation and wealth creation based on land in North America are unsurpassed elsewhere. Agriculture produces plastics, fibres, cosmetics, designer foods, fuels, medicines and even body parts. Many of the new billionaires are "farmers". Most activities are moderately sized and widely dispersed across the rural areas of North America and other developed regions.

3.3.2 The Evolution of the Scenario: A Technological Revolution

The US model of an entrepreneurial, sciencebased and market-oriented agriculture is allowed to take-off in an environment of deregulation, venture capital and unconstrained technology. Innovation, rapid development and intense competition dominate the economy. In a major policy reversal, Canada adopts the American way and joins the technological boom. An explosion of new foods, industrial inputs, medical components and consumer services has transposed the rural landscape into a beehive of small and middle-sized enterprises. In this environment activities are widely dispersed in developed regions, and throughout the agricultural chain among researchers, producers, processors, distributors and retailers. Most conflicting interests are accommodated at various stages in this economy. Corporate networks rise, wane and are replaced too rapidly for policies and regulations to significantly affect their operations. Investment dollars chase the latest successes and ignore the backwaters.

Canadian agriculture is fully integrated on a North American basis and the policy distinctions between export and import sectors have largely disappeared. Supply management and the Canadian Wheat Board exist only in history classes. While Canada lost its competitive advantage in regulation-building, it gained a comparative advantage in northern land-based activity and like the US, its productivity growth has exceeded that of Europe. Agriculture in parts of Asia has demonstrated growth, and China is an emerging agricultural Tiger, but most of the agricultural output remains in Asia. Russia and much of eastern Europe are not yet capable of such an innovative, entrepreneurial economy. Latin American countries have aligned their interests more closely with North America and their growth rates are accelerating while Africa is slipping behind.

3.3.3 The Structure of International Power and Governance

The centres of power in this rapidly changing environment are transitory, widely dispersed and ineffective. While a legal and policy framework remains in place, there is limited intervention in techno-agriculture and borders are hardly relevant. Smaller groupings do emerge around specific activities and local markets but the changing landscape limits their role. The same is true of MNEs and NGOs. Corporate networks rise and wane. National governments trail events, have a wide and diverse client-base and little influence. Some horizontal coordination does take place, but it is regional and involves a full slate of players. Most tensions are subsumed by the race to succeed and are overtaken by new discoveries and events, or ignored by the successful majority. There is little time for, or interest in, institution-building as policies, standards, trade agreements and international institutions cannot keep up to the Cyberwave revolution. While rules and standards are maintained, they are less influential in the rapidly changing environment. The roles of NAFTA and the WTO have declined. Trade disputes between the US and Canada are unusual as new products, services and integrated systems have left most problems behind.

3.3.4 Economic Growth and Power

The world and national economy are more volatile in this scenario. The distinction between old and new economy that prevailed in the 1990s has swept through the entire sector, leaving the old almost entirely behind as commercially viable enterprises. Yet the market demand and rewards for cutting edge development lends an inevitable volatility to entire sectors, regions and national economies — capital markets continue to exhibit strong swings. In this environment, agribusiness has some advantage in that land values fluctuate less wildly.

Commodity markets never fully recover, although there is some relief in that the EU and USA have long since stopped the extensive subsidizing of production. Agri-business profits are concentrated in niche food production and vertically linked food processing. Only the diversified, large commodity producers survive volatile commodity markets. In this market climate, agriculture situated closer to larger cities, culturally diverse communities or technological leaders, prosper the most. In Canada the best adapted farms and agribusinesses are found in southern Ontario, Quebec, and Alberta, and in niche areas around strong technology centres. Everywhere in rural Canada there is a non-farm renaissance as city dwellers with the means and technological expertise move to a better lifestyle.

3.3.5 Domestic Governance and Civil Society

Canadian governance structures have tried to adjust to the broader and more diversified role of agriculture but are weakened by the failure to keep up, and the need to reflect a wide and more diverse client-base. At the Federal level, most policy activity is horizontal and directed to trying to sustain a framework for orderly trade and payments. A network of global institutions exists to try to address the disparate issues of human rights, labor, the environment, and food safety, but it is a losing battle. Some provinces and NGOs are able to maintain sufficient focus to influence local or regional affairs, particularly as smaller centres of activity emerge somewhat

analogous to the regional market areas that developed under Shared Governance. There are many smaller concentrations of interest and power that do not fit the traditional modes of federal/provincial governance, or international rule-making.

Initially Alberta and Ontario benefit most from this free-wheeling rural environment since the role of government has been minimized in these provinces. But over-time, the other provinces experience greater activity. Quebec welcomes the withdrawal of federal government influence in the sector, but finds itself at a disadvantage as its own substantial state interventions are less and less influential. By 2015 all of the provinces face similar opportunities and constraints, although the areas of higher populations have some advantages in the Cyberwave world.

3.3.6 Social and Rural Implications

There is growing inequity (a "digital divide") between the educated and capable and those less equipped to function in this technological age, which is quite pronounced in rural areas. While social instability has increased, most complaints are overwhelmed by widespread economic success. Concerns over food safety, animal welfare, the environment and new technologies are submerged by waves of technology driven growth, spear-headed by the best and the brightest. Moreover, the cyberwave revolution is at home in the country as in the city. Rural-based activity expands, and continuous diversification prevails. Occasional crises arise over food health, income disparity, and environmental disasters but rapid, innovative responses and new events offset them. There are important advances in safeguarding the environment, maintaining biodiversity and combating global warming, creating new opportunities for rural development. Canadian enterprises are in the forefront of many of these initiatives, reflecting the size of the country, its northern location, and the scope for rural activity.

3.3.7 Summary of Changes from the Base Case

By way of summary, the following points may now be made to distinguish this scenario from our current context – i.e., the base case described at the end of Part 2 above. For a more complete discussion see Part 4 below.

Global Context

In the "Cyberwave", unrestrained technological growth, initially encouraged by the liberal regulatory environment of leading countries such as the USA, overwhelms international institutions and any attempts to impose global regulation. The international trade regime becomes largely irrelevant, and in agriculture, niche products and markets are all-important: commodity markets and prices continue to collapse. Canada is an important player in this context only to the extent to which its economy is innovative and fully involved in the technologically-advanced sectors. Governments everywhere concentrate on social adjustment, rather than global governance.

The Canadian Agri-food Sector

- Canada adjusts quickly to a rapidly evolving, technologically advanced, agri-food business approach. Commodity markets collapse; commodity-oriented regulatory regimes (e.g. dairy quotas, Canadian Wheat Board) are abandoned. Economic growth is strong but volatile, and while some provinces/regions get an early head-start, gradually all agricultural regions find their niche.
- There is a rural renaissance as agriculturalled development, integrated with other hightech sectors, thrives in a deregulated economy. Local prosperity is linked nonetheless to access to urban markets and technology networks.

Key Governance Challenges

 Horizontal coordination of framework policies for economic growth, environmental sustainability and social adjustment is the key priority.

- Regional tensions ease as conflicts over commodity interests fade.
- Governments struggle to keep up with rapidly evolving technological developments: locally-developed strategies become more important.
- Less attention is paid to national and international farm and related organizations.

3.4 Regional Dominators

3.4.1 Overview

A weak global institutional framework and national rivalries lead to regional, inward-looking blocs. As part of the North American power bloc, and without multilateral disciplines, Canadian agriculture is much more closely integrated into a US-led continental setting by 2015, than in the other scenarios. The agriculture and food industries in this region and elsewhere are dominated by powerful, consolidated MNEs based in each bloc, and operated in a highly concentrated, competitive environment. Farm and industry structures, as well as policies and standards, are shaped to suit the operations of MNEs, which in turn are linked to the security concerns of the dominating states. There is limited agricultural trade between blocs apart from unprocessed commodities and industrial materials. Even intra-bloc trade is restricted to commodities and semi-processed products, and finished items that suit the interests of the dominant economies and corporations.

The emergence of protectionist forces within each bloc further chokes global trade and commerce. Not only are international agreements and organizations weak or extinct, national governments and institutions have limited clout. There is damaging inter-bloc rivalry but also ongoing tensions between sectors within the blocs, depending upon the scope of the regional markets and the success of the corporations serving them. Located in large consuming areas, the agri-food sectors in the US and Europe do reasonably well, albeit without much trade. There are tensions in Asia arising from the dependency of much of the region on food imports, and an uneasy relationship between China and its neighbors.

Agriculture in Russia languishes in this environment and Africa slides further behind in meeting its own food needs. Only those developing countries linked through MNEs to one of the blocs are able to benefit from investments and the transfer of technology.

The Canadian agriculture and food sector is severely depressed in this scenario. Those sectors oriented to export outside North America must contract as trade is restricted. And in all sectors margins are controlled by MNEs, and the Loonie is tied to the US dollar. The market power of MNEs forces Canadian prices to US levels and overall only those crops and products that exhibit a clear comparative advantage in the continental market are able to expand at all. Since the Western Hemisphere is a food surplus region, and North America is a mature economy, Canadian agriculture shrinks initially and subsequently experiences limit growth. Overall, the outlook is bleak, tensions are rising, the farm exodus is accelerating, and the resource base is being depleted.

3.4.2 Evolution of the Scenario: a Shrinking, More Dangerous World

The world became a more dangerous and divided place after the prolonged recession of 2001-2 which poisoned the climate for the resolution of major outstanding trade disputes between the US and Europe, and contributed to the high-profile failure of several intercontinental mergers. Distracted by national scandals and expansion squabbling, the EU turned inward, while nationalism rose in the USA. The WTO ("Millenium") Round was dead even before it started. With the inauguration of a much more protectionist administration in Washington in 2005, the US made a virtue of pursuing a trade policy to exclude the Europeans and Asians. The return to a modified cold war with China and Russia led all the regional dominators, including the US, to re-emphasize food security as a national policy, reinforcing the return to agricultural protection.

Canada has little choice but to get along as best it can in the constrained North American

neighbourhood -with the smallest room for international diplomacy of any period in the past century. The WTO collapse follows soon after the US refusal to revive a new Round, and by 2004 Canada recognizes that NAFTA will be the only viable trade regime for the foreseeable future. By 2005 Canada pegs its currency to the US dollar, confirmed in a formal monetary union by 2008. The deep recession of 2001-2 leaves government finances in Canada in a weak if not catastrophic state, with little political will for major new spending, certainly not enriched farm income programs. With social problems mounting, particularly in inner urban areas and with the Aboriginal population, the political capital of the farm community declines in proportion to other government priorities.

3.4.3 The Structure of International Power and Governance

In this scenario bloc leaders prevail and agriculture consolidates within the region based on the leading nations and their powerful MNEs. Global disciplines are ineffective and protectionist interests strengthen. The US dominates the western hemisphere, and other nations and provinces are fragmented and marginalized. Lobbying efforts shift to Washington. Some regional agreements are continued, particularly NAFTA and a framework FTAA. There are also some regional arrangements for other policy and technical issues. There is limited scope for new rulemaking and MNEs resist government interventions in markets. Power has shifted to the US in the bloc, although Canada exerts an influence in the agri-foods area since its cooperation with Washington is important in relation to other countries in the bloc.

The lack of a rules-based international trading framework, and the emergence of new barriers to imports, dooms the agri-food sector to relying on the markets within their bloc. Even this trade is uncertain as MNEs are able to manipulate access to suit their interests, and to obstruct trade almost as they wish. Technical standards, sanitary and food regulations, and border requirements are regional, and change frequently, limiting inter-

bloc commerce. There are no consistent regulations covering new issues such as the environment and biotech foods. The dominant position of large corporations within each block enables biotechnology intensive products to thrive, but chiefly within the North American market alone.

3.4.4 Economic Growth and Trade

The regionalization of the world economy, and the less secure context for global capital contributes to a prolonged period of lower, and somewhat uneven growth –at its best comparable to the period between 1974-82. Agricultural commodity prices remain depressed, as the Europeans and the Americans continue to dump surplus production onto what are shrinking world markets. Processed and specialty food products do well within the North American market, at least for those products where the US-dominated rules allow sufficient market access. Market power is nonetheless dominated by a relatively small number of multinational corporations, including a few from Canada.

Overall Canada's agricultural production undergoes a sharp and complete integration into the American market. This includes the dairy, poultry and egg sectors, where tariffication is phased out over a 5-year period. Farm consolidation and diversification accelerates and overall production decreases initially in these sectors. Similarly many grain producers in the prairies go out of business, finally losing the battle of low prices and with government unable to match US and EU subsidy levels. Deregulation of the CWB and the coordination of product standards with the US does enable the stronger producers to survive, increasingly in niche markets. Except in close proximity to the largest cities, the rural economy in general goes into a prolonged decline.

3.4.5 Domestic Governance and Civil Society

The governance arrangements for agriculture in Canada are strained and weakened in this neomercantilist environment. In step with the general retrenchment of government, there is a rise in MNE influence, particularly in Washington. Agricultural support programs are gradually withdrawn which modestly helps Canada's relative position. The Federal government represents the main conduit to Washington apart from working through corporations, and this role is influential in agriculture. The role of Provinces and NGOs is severely limited but some joint regional organizations are able to have an impact, often in concert with like-interests across the line. The Provinces prepared to ally their interests with Ottawa were able to exert some influence in agri-foods. The direct approaches to Washington sometimes taken by Quebec and Alberta were less successful.

3.4.6 Social and Rural Implications

Rural sectors are depressed and the farm exodus accelerates. The strong influences of regional MNEs in the market obliges farmers and service companies to integrate their operations into the corporate food chain which accelerates the shift to commercial operations, organized largely on a contract basis. Research and the adoption of new technologies is stimulated within the corporations' sphere of interest, but languishes in other areas. The role of NGOs and farm lobby groups narrows, as the influence of national governments is weak, and MNEs are unresponsive except when change offers the prospect of profit. The lack of social programs, growing income disparity and a worsening situation in most developing regions leads to occasional bouts of aggressive tension and disruption. These tensions contribute to the uncertain and cyclical nature of food markets. There are no effective regulations with respect to the eco-system, which deteriorates as social tensions rise.

3.4.7 Summary of Changes from the Base Case

By way of summary, the following points may now be made to distinguish this scenario from our current context - i.e., the base case described at the end of Part 2 above. For a more complete discussion see Part 4 below.

Global Context

- Under the "Regional Dominators" scenario, weak global institutions were unable to prevent the emergence of rival, militarily hostile and trade-protectionist blocks.
 Multilateral institutions are significantly weakened or irrelevant.
- The scope for independent Canadian agricultural diplomacy is greatly reduced. Canada becomes an important but ultimately subsidiary player in the US-dominated Americas region.

The Canadian Agri-food Sector

 There is a difficult adjustment to the primarily continental market, dominated by US-based MNEs. The agricultural economy grows more slowly, and indeed is depressed in many parts of Canada, including in grains and supply-managed commodities (where Canadian regulatory regimes were phased out in favour of harmonized North American rules). Regional and income disparities increase among agricultural subsectors and communities.

Key Governance Challenges

- Managing relations with key power brokers in Washington, which requires skillful coordination of Canadian interests. Some scope for greater North American regional and cross-border cooperation.
- Economic and social adjustment of the rural economy to the capital-intensive US agribusiness model.
- Less concern for GMOs and related issues as trade with the EU fades, and acceptance of the US-dominated market prevails.
- Increased regional tensions over agricultural policy as the sector declines.

4.0 Comparing Governance Challenges

4.1. International Governance and Agriculture

In all of the four scenarios developed above, global and regional integration continues in one form or another. For Canada in general and

agriculture in particular, there is no escaping the international policy context. Thus the first crucial governing challenge to be addressed and compared across the four scenarios is the management of the international relationship. This encompasses more than just foreign policy and international trade relations conducted by the federal government, but also the formal relations abroad of all Canadian governments, and the management and/or coexistence with potentially extensive transnational civil society organizations, multinational enterprises, and international organizations.

The premise of all our analysis is that Canada's agriculture sector is strongly shaped by international integration, but even in the most restrictive scenario that can be reasonably envisaged, there will be considerable room for Canadian governance to improve (and of course to make worse) our position in the world. In every case, relations with the US still dominate the Canadian agri-food agenda, as the enormous pull and influence of this huge economy affects the complete food chain. Integration of the two economies intensifies the US dominance, as does the shift from commodity trade towards products and services. The relationship is managed through a range of bilateral, regional and multilateral agreements, understandings and institutions, but also through multilateral institutions.

Currently the WTO Agreements provide the base for international governance in agriculture, and all other arrangements build on and extend these rules and disciplines. The NAFTA is consistent with the WTO, but its commitments for agriculture at present go somewhat further toward a free trade area. The WTO and NAFTA Agreements include legally binding dispute settlement procedures that underpin their leading role in international affairs. A second group of international arrangements of importance to agriculture consist of the various Protocols, Conventions and Understandings that establish non-binding principles, rules, and standards such as the Biodiversity Protocol, the FAO Codex Alimentarius Commission, and the Canada-US Record of Understanding on Agricultural Trade.

The WTO regime is especially important for agriculture in the Global Club and Shared Governance scenarios. Its framework, rules and dispute settlement bodies would play a key role in the events leading to both scenarios. In the Club scenario, its members would dominate the WTO Executive, Agriculture and SPS Committees, and the Dispute Settlement Mechanism. By 2015 the WTO would be the centre of management of the Club for agri-food matters linked with trade. This encompasses the entire food chain of the principal trading nations and consequently the WTO would be the focus point for the management and discipline of agricultural policy development and trade relations in foods. Since rapid trade liberalization would have occurred, even for the most sensitive sectors, the Club leaders and their allies would use the WTO mechanisms to manipulate and manage economic relationships with the backing of the IMF and World Bank.

The WTO rules and disciplines in the Shared Governance scenario would be broader, more balanced, and more important as formal instruments of influence compared with the other three scenarios. The rules would provide a more predictable and secure basis for national policies, and more countries would be involved in WTO operations. However, the disciplines would take effect more slowly than in the Global Club scenario, and provide for greater flexibility in their application. The WTO role would be weak under Cyberwave and provide only a framework for the general development of economies and land-based activities. The influence of international rules would wane, and trade disputes would be subsumed by the changing scenario. The WTO Agreements would essentially collapse in the Regional Dominator scenario. Indeed, new barriers would emerge in relation to inter-bloc trade, and border requirements would be dominated by the more powerful nations and regionally-based MNEs. Trade regimes would be regional, and change frequently, often taking the shape of managed trade arrangements.

With respect to the newer regimes such as SPS, these would be greatly enhanced in both Global Club and Shared Governance circumstances. The Club leaders would force the acceptance of codes and standards to settle key issues related to health and safety in foods, including the area of biotechnology. The EU would have been able to broaden the criteria to include specific consumer and rural concerns, but Club standards would be strictly enforced, using the SPS Committee. The situation under Shared Governance would be similar. However, codes and standards would emerge more slowly under this scenario, with more exceptions and longer transition periods. They would also be less strictly enforced. Separate accords would be developed for newer issues, and the trade-related aspects would be incorporated into the SPS or other WTO Agreements. The criteria in these agreements would be broader and more flexible, and include social, cultural and ethical considerations, making them weaker and more difficult to enforce. Canadians would have considerable incentive to be actively engaged in shaping this new wave of agreements.

Multilateral rules, standards and other disciplines would fail to keep up in the dynamic Cyberwave environment. Since power would be widely dispersed, and power coalitions would shift rapidly, policies and institutions would be ineffective. The influences of the WTO Agreements would have faded, and the disciplines would be guidelines at best. Since agricultural production and trade would consolidate regionally under Regional Dominators, multilateral disciplines would be ineffective in this scenario as well. To the extent that rules and standards are developed, they would be regional and change frequently. Indeed, MNE-led investment and trade in agri-foods would leave little room for government involvement.

As noted, managing the bilateral relationship is key in all scenarios. Under both the Global Club and Regional Dominators, the US position is more dominant than in the base case, in the former setting a powerful and deeper global liberal regime, in the latter retreating to a

protectionist fortress America under its own rules. Canada would have more leeway to lever concessions and to influence the general rules governing its bilateral trade under the Global Club and Shared Governance scenarios than in the other scenarios; it would be much more of a policy taker under the Regional Dominators.

Finally, the external environment and international policy-making process differ dramatically with respect to the involvement of nongovernmental actors. Current trends to involve business groups, international NGOs and other civil society interests in international negotiations, or at the least in formal consultation processes, would be the same or even greater under the Global Club. The difference would be that there would ultimately be no ceding of the final say by the powerful club members over the general lines of new binding commitments. Nonetheless, some movement to international undertakings on the newer issues related to social and environmental concerns would be realized. This would result in new binding rules on such matters as GMOs, biodiversity and animal rights. Under Shared Governance, the situation would be more extended, more nuanced, and more complex. New international regimes would be developed integrally with civil society interests, some of which would rival the influence of all but the most powerful states, and who collectively could veto new arrangements until their needs were met.

International civil society influence would be less effective and powerful in the Cyberwave and Regional Dominator scenarios, as would their agendas. Their influence would be less important in Cyberwave because their interests are too difficult to aggregate in the rapidly changing world, and more importantly, international regimes have less relevance. Local advocacy and mobilization is what counts. In Regional Dominators, international civil society is only effective at the regional level, as power is concentrated there alone. Moreover, civil society influence would be unlikely to get past the current base case, and indeed may wane in an increasingly conservative, retrograde political climate.

This brings us to Canada's role in each of these scenarios. Canada's place in the WTO policy-making process differs considerably from the present day base case in three of the scenarios. In the Global Club, it becomes a more junior partner, allied still with the USA on most issues, but with less scope than in the base case, and in Shared Governance, for playing a leadership role among middle powers. Nor has it much room to fashion deals amenable to Canada while making peace among the greater powers. Instead Canada must accept a more comprehensive and tighter regulatory regime over which it has less control, and which would take effect more quickly and completely than has been the case to now. Our domestic interests would compel Canada to work, through the Cairns group and other means, to fight the good fight to reduce EU/US subsidies. But the logic of the Global Club would mitigate success. Our policy challenge internationally would be to ensure that the more comprehensive "liberal" playing field is not unduly slanted to the bigger players, and domestically (see below) to implement the new regime without excessive adjustment pain and in a way that promotes Canadian comparative advantage. While not impossible, the pace and depth of adjustment would be considerably greater than the base case.

Compare this role with Canada's under Shared Governance, where our diplomatic abilities and alliances would be put to more powerful use, an extension of the useful agricultural diplomacy we have exercised in recent years. The pace and nature of adjustment required of Canada can be gentler, and one over which we can have greater control. Canada would take a leading role on such issues as environment and GMOs, on export subsidies (within the Cairns group) and on trade in services and other newer issues. On the difficult subsidy issues, Canada can more effectively make common cause against the US and EU. The chief policy challenge for Canada will be to resource and coordinate what will amount to a more important but more complex role in the international community. As outlined more fully below, in this scenario the federal government

would find itself sharing the policy-making role not only with provinces, but also with international and domestic agents of civil society.

The scope for diplomatic management at the international level is greatly reduced in the Regional Dominators scenario. While Canadians would hope that in the long term the WTO and its allied regimes could be strengthened, the focus of agricultural policy would shift rapidly to NAFTA, and possibly other bilateral arrangements. In this more dangerous world, there is a greater urgency for central leadership in Ottawa to marshal what remaining strength Canada has vis a vis Washington. The chief policy challenge will be to play Capital Hill and other power centres in America with the skill of an insider. Some of this role can be delegated to the provinces, as it is likely that regional coordinating bodies take on more importance. But this could not be at the risk of poor coordination of the overall Canadian interest.

In the Cyberwave, the WTO and international trade regimes are simply less relevant. Canadian governments would have to maintain an interest, and a degree of involvement perhaps similar to the former GATT regime, but the political importance of these relations would diminish over time. However, Washington is also less powerful under this scenario and thus Canada would have to focus less than in the base case on managing that relationship. Indeed, the major policy challenge in Cyberwave is more local than it is international or even national, that is to ensure that framework policies and local infrastructure enables Canadians to compete in the new economy. In this scenario, international relations become much less monolithic than in the base case, and much less easily monopolized (with less reason to do so) by the federal government.

4.2 The General Domestic Policy Environment

The impacts of alternative international developments and regimes on Canadian agriculture and domestic governance are profound and deepening in 2015. Technological

advances and continuing integration have transformed the policy environment for agriculture and foods compared with the 1990s. Primarily international and regional developments and agreements shape the policy environment. Agri-food policies where they exist are primarily tailored to suit local and subregional needs and conditions. National borders and the powers of government have been eroded to the extent that agricultural policy based on traditional farm operations has virtually disappeared. The agro-business units of 2015 are primarily concerned with the commercial environment and properly managing their resources for a profit. They co-exist in rural areas with a range of business enterprises connected to the world by electronics, and with hobby farmers, retirees and displaced urbanites. Commercial "farmers" are more concerned with contracts and business conditions than commodity policies, prices, and delivery opportunities. Their output not only must meet the precise specifications of food system contracts, but their operating licenses require compliance with resource use regulations. Many policy concerns that were new, or not perceived as compelling in 2000, such as protecting the ecosystem and maintaining consumer trust, now match interest rates and taxes in importance to food operations. The changing nature of the agri-food business, and the political fragmentation that accompanied integration, has altered the policy landscape in Canada, all the more so because agriculture is a shared jurisdiction in a sector with broad regional diversity and disparities.

Nonetheless, the four scenarios have differential impacts on Canadian agri-food policies and institutions. In many ways the Global Club scenario resembles most the base case of 2000, but Shared Governance more closely matches the policy environment for agriculture that many rural Canadians were seeking to build. For some today the exciting prospect of a technology-driven, entrepreneurial agriculture would lead them to hope for a Cyberwave scenario. Finally, the prospect of being swept into the highly competitive, commercial agriculture led by the American model, and distorted by US and EU subsidies, as

portrayed in Regional Dominators, is a distinct contemporary worry.

The priorities of the federal system for agrifoods in 2015 are focused in all scenarios on helping to manage the adjustment of the sector to the changes created by integration and the technological revolution. The prime objective will have to be to maintain and develop the rural sector by helping create the conditions for effective and profitable operations that respond to the requirements of consumers and the ecosystem. Policies will have to be based on a competitive, commercial model, organized primarily on a continental basis. This would require effective policies and institutions in terms of their influence on domestic and international affairs. The need for multi-level governance activity, and the full integration of agri-food policy into general economic policy, greatly adds to the task.

In the Global Club scenario, Canadian institutions would experience diminishing policy and regulatory flexibility, as the agri-food sector comprises relatively small players tied by location and circumstances to the US economy. Most policy activity would be aligned with market-oriented rules, standards and mechanisms. The key policy priorities would be as follows:

- To maintain Canada's position with respect to the Club by ensuring comprehensive domestic enforcement of the Club's rules.
- To facilitate adjustment to the US market model in order to exploit Canadian advantages and command public support.
- To promote education, science and technology for land-based enterprises in the continental market setting.
- To improve consumer acceptability of agricultural output.
- To sustain and improve the resource base through the promotion of environmental technology, conservation and biodiversity.
- To advance rural opportunity and economic diversity.

Since commercial farm-based operations would thrive in the Global Club environment,

there will be less need for safety net intervention. However, extensive US/EU subsidy transfers, and the relatively slow economic growth in developing countries, would periodically depress commodity markets. Rural lobby groups and other types of NGOs would exert strong pressure for financial aid. Farm safety net programs would consist largely of market sensitive, tax-payer assisted risk management tools, such as insurance, and extensions of tax-based income stabilization programs (e.g. NISA). As Canada could not compete with EU/US subsidy capabilities, any direct payments would take the form of disaster relief, and be shared with provinces. The Global Club scenario would also require a broader, more horizontal approach to public policy. Two areas in particular which may require a broader legislative and policy framework are: rural science and innovation to cover such diverse instruments as investment financing, tax expenditures, incentive transfers and intellectual property protection; and food systems and safety to cover technical inputs, inspection, environment and GMOs.

The domestic policy environment under the Shared Governance scenario changes more slowly. The Canadian agri-food sector is largely market-driven but there is scope for continuing state intervention, resulting in a more gradual integration into continental food systems. The policy priorities for agri-foods are also similar, but with a greater global orientation. The strengthening of education, science and innovative activity remains a priority but a slower pace of change is accepted for those subsectors that resist strongly. Adjustments to improve consumer acceptance and confidence, and to sustain the resource base, are given priority but codes and standards emerge more slowly, and are less strictly enforced where hardship to other levels of the food chain can be demonstrated. The priority attached to rural diversification is similar to the Club scenario but designed in part to offset the pull of the continental market. The role of safety net programs is limited as US/EU subsidies are reduced and disciplined. Economic growth in less developed regions is more robust under Shared Governance and commodity markets are stronger, and more stable in this open, rules-based environment.

These policy approaches and institutional arrangements would hardly exist in the Cyberwave scenario. Policies and institutions would be less effective. Policy frameworks would continue as guidelines but with limited direct impact. Policies intended to restrain market adjustment would have been eliminated. Safety net programs with federal/provincial funding would be used to a limited extent to cushion the huge changes that occur in a few local regions. The provinces would operate these programs. Social instability would increase under Cyberwave, with provincial and local governments providing social programming assistance. The focus of regulation would be on facilitating innovation and commerce in the rural regions. Federal funding would continue to encourage research in food-related areas such as the new bio-sciences that benefit production and the environment. A legal framework would be required to settle commercial and trade disputes, but the Cyberwave scenario would often overwhelm these differences.

Under Regional Dominators, the primary policy task is to assist the agricultural and agrifoods sector to adjust to its restricted continental market. This adjustment would be sharpest in commodity sectors such as grains and in the supply managed sectors. All agricultural subsidy programs would be under increasing scrutiny from the US countervail process. Thus the scope for comprehensive safety net programs that differed significantly from US models might be limited, or require specific "managed trade" solutions with the US. A key policy objective would be to encourage economic diversification of the rural economy, although in a more hostile, mainly market-dominated environment. There would be less policy urgency to deal with consumer concerns about GMOs, especially as access to the European market would be severely limited in any case. In North America, the dominant political position of agri-food corporations would provide a more friendly environment for biotech products overall. However, the total domestic context under

Regional Dominators would be greater instability of the economy, more regional and income disparities, and thus growing regional tensions.

4.3. Managing Civil Society and Industry Representation

The democratic scenario of Shared Governance would present arguably the biggest challenge to government in terms of rethinking and reorganizing its relationships with civil society organizations and agricultural corporations. In this scenario civil society is extremely well informed and plays an active and effective role in influencing policies and institutional behavior in the agri-food sector. Governments everywhere would facilitate public participation in rule-making. This would extend to the WTO and other international institutions where, in most cases, new governance structures would include agriculture and business groups, and other NGOs at the general council, nonvoting levels. To a considerable extent their input would be developed through international networking and coalitions -- indeed many international NGOs would rival nation-states in their informal power and influence in international policy-making. Effective Canadian foreign policy will mean forging alliances with domestic and international NGOs and corporations who share Canadian government goals. Multinational enterprises would also be important players, but less so than currently (the base case).

Thus in Shared Governance federal politics will force institutional adaptation in the direction of "deliberative democracy" -- the proliferation of forums in which a much broader representation of the public, including organized civil society, undertake a formal role in deliberating upon public policy issues. Many difficult agriculture, food and rural issues lend themselves to such deliberation, but the legislative and policy-making process would require significant overhaul to effectively deal with this governance challenge: existing consultative mechanisms would be largely inadequate to the complexity and scope of the task.

The situation in the three other scenarios is more constrained for civil society and thus presents somewhat less of a governance challenge in this respect. In the Global Club, the NGO influence is weaker than in the Shared Governance and largely contained within international institutions that are dominated by Club leaders. However, NGOs would still have more relative power compared with the base case, because the international governance regime as a whole would have more importance and influence on national policies. Business and industry is even more influential in the Global Club, and has a strong impact on investment, trade patterns, rules and codes. However, Canadian agri-business would have limited influence in the MNE-led, continental food systems. The current set of mechanisms for mobilizing information, input and consent for Canadian positions on international policy in particular would have to be strengthened. Consultation would have to be frequent and more formalized, but not to the same extent as in the deliberative democracy of the shared governance scenario.

In the widely dispersed and competitive Cyberwave scenario, the principal impact of NGOs and the general public comes through the market. While challenged to keep up to the rapidly changing environment, they would have influence as users and consumers, and to an extent through participation in horizontal coordination conducted by governments. Farm groups as such would have little clout since rural activity is extremely diversified; there would be a severe disaggregation of agricultural interests. Corporate networks would be smaller and undergo continuing rationalization, limiting their impact. Civil society would be less informed in this rapidly changing situation, and only at the local and regional level could they have a significant impact. Nonetheless, one foresees an important public role for scientific and technical groups in extending and safeguarding the new economy. While seeking to encourage the free flow of innovation, capital and knowledgeable people, such groups will need to take the lead in

implementing codes of behavior to avoid malpractice and crises.

In this Cyberwave scenario the key challenge for government would be to become as current in emerging technologies and rapidly evolving policy issues as are civil society organizations and business associations. The paradox is that in this scenario governments everywhere are less and less capable of keeping up with fast-moving technological developments and thus the pressure would be simply to abandon attempts at tight regulatory control. To retain even a moderate degree of control, governments would have to significantly boost their in-house scientific and technical advisory functions, and continue a substantial investment in information technology and the human capital to deploy it. In general government must cultivate a capacity for more rapid adaptation than in the base case, a strategic position of "lie low and move fast". This means less reliance on formal consultative mechanisms because they take too much time, although new technology might make certain forms of deliberative decision-making easier (econsultation). However, the latter would tend to be confined to very specific policy questions and specialized, disaggregated consultations.

There is even less public and NGO involvement in agricultural matters under Regional Dominators. Only selected capitals and regional MNEs would have power and influence. Specific NGOs concerned with social, environmental and welfare issues that are organized across borders would lobby in key capitals with some effect. Their influence would be significant only where it coincided with the aims of counterpart US groups (and one might see formal alliances or even mergers of Canadian agricultural and other groups with their American counterparts). There would be growing public concern over economic and social disparities, but limited power to alter the situation in this undemocratic scenario. Thus governments would not need to upgrade significantly their processes for dealing with civil society and agribusiness in general. But for selected issues such as continental trade where resolution of a major dispute requires careful industry and

intergovernmental coordination, the federal government's diplomatic skills and management will be in demand at least as much as they are today. General political management of regional disparities would also return as a significant issue under this scenario, as the collapse of the agriculture in some regions would heighten regional tensions.

4.4 Federal-Provincial Relations in Agriculture

Global and regional integration has reduced the influence of governments in Canada in the agri-food system by 2015 in all of the scenarios under review. Yet federal-provincial relations will be more complex in at least two of the scenarios, and probably in them all. The influence of governments has been eroded as commercial agriculture has emerged, and program activity has been withdrawn from the operations of the market, transferred to private players, or phased out. There has been a shift in emphasis from farm policy to food policy, to health sciences and to rural development. Parts of the government role have also moved to international agreements and institutions, or has been weakened by the growing dominance of the US and EU in global food policy matters.

The base case of intergovernmental relations in the past several years has been characterized by an extensive intergovernmental network, a hierarchy of formal and informal consultative mechanisms (Ministers, Deputy-Ministers, other senior committees and task forces, etc.). Cooperation is intense in some policy areas, but not comprehensive. In this respect, intergovernmental relations in agriculture are not any different from the general Canadian pattern of "executive federalism". Processes for when to meet and what to discuss, and how to reach decisions remain ad-hoc, informal and non-legal. Intergovernmental relations have no constitutional standing and, except in a very few cases, the decision rules are of the consensustype only.

This base case form of intergovernmental relations may suit current needs, although at

times with significant difficulty. It does have its advantages in providing each order of government with maximum flexibility to go its own way. Canada has thus avoided the complex and binding voting rules of the European Council of Ministers or the more formal and integrated processes in federations such as Germany and Australia. In addition, our intergovernmental relations continue to be a closed, even secretive set of processes, with no direct transparency or accountability to citizens. A key issue is whether any of the four scenarios would force a change in this base case situation.

Intergovernmental relations in the agri-foods sector is already a complex challenge in the base case, and will not become less so in any of the future scenarios. As commercial agriculture is now closely integrated into the economy, and more issues, interests and players are involved in agri-food and rural policy development, intergovernmental management goes well beyond regional and sectoral brokerage. The business of farming, the needs and wants of consumers, and the handling and distribution of food and agricultural components, will become immensely more sophisticated in 2015. But the impact of these changes in agriculture on the federal system of governance is also quite different in the four scenarios under review.

In the Global Club scenario, the WTO influence is dominant in agri-food matters, and the US and EU control or manipulate policy direction in relation to other leading Club members. Canada is a second-tier player, and primarily a policy-taker in this situation. Canadian importance and expertise in food matters do provide some scope for influence in policy and technical food issues, with the maximum leverage achieved by working with the US and Cairns Group countries.

Since the farm sector in Canada is relatively prosperous in the Global Club situation, particularly for value-added products and services, most provinces would find the general trend to be acceptable. Nonetheless Manitoba and Saskatchewan would increase pressure to offset continued US-EU subsidy transfers, and to

retain a Wheat Board presence. Farm interests (allied with anti-globalization parties and movements) would wage another difficult and protracted dispute over the phasing out of supply management for poultry and dairy products. Regional conflicts would be especially sharp on relative shares of federal transfer payments.

More so than in the base case, however, Canada's position within the Club will depend on its ability to enforce at home its global obligations. The federal government will not be in a position to accept ambiguity or foot-dragging by provinces. Its options will include enforcing (and expanding) its constitutional power through aggressive legislation (or an aggressive strategy of legal challenges to provincial measures); seeking reform through constitutional amendment; or strengthening intergovernmental decision-making mechanisms where its constitutional resources are weak (or where politics demand a joint response). The least conflictual and most cooperative option would be to adopt more elaborate, formal, transparent and binding intergovernmental machinery (along the lines of the European Council of Ministers for example). It will also need stronger and more legitimate civil society/ agribusiness relations (see above).

Thus there are significant dangers for federal-provincial relations in this scenario. The provinces will resist legal encroachment and some, particularly Quebec, will resist binding intergovernmental decision-making as well. This tension would come on top of an already heightened regional conflict over the sharp pace of market-led adjustment that the Global Club demands. Arguments by Quebec sovereigntists that the federal government is not well representing its interests abroad would be hard to effectively counter. Meanwhile the provinces themselves would continue to be active players at home and abroad.

In addition, a significant part of the federal governing challenge will be to handle horizontal issues effectively, which spills over into the intergovernmental agenda. The chief role of AAFC would be of implementing WTO-

consistent regulations and international technical standards. Arm's length agencies and councils with mixed representation, including provincial and non-government involvement would administer most programs. These activities would be focused on administering financial transfers, applying technical and market regulations, and coordinating research, education and rural adjustment. Since global food issues would then include many dimensions such as the environment, food safety, native peoples, species preservation, biotechnology, and science ethics, the use of secretariats, interdepartmental groups, and semi-autonomous agencies in coordination would be common. For government as a whole the horizontal policy-making challenge would increase, and thus require a reinforcing of central agency roles - i.e. to ensure whole-ofgovernment coordination. This would reverse the tendency of the 1990s to provide line ministries with somewhat more policy leeway.

Both AAFC and DFAIT would continue the formal federal-provincial structures for policy development and consultations. But, as noted, this process would have to be more formal and binding than in the base case. In sum, under the Global Club, provincial governments would have less room to maneuver on international disciplines and the federal government would be forced to take a stronger leadership role to maintain the Canadian position. The danger is that the transition to this new equilibrium will generate much conflict in some quarters and, if not successfully managed, could threaten national unity.

The federal-provincial relationship is even more active and substantive in the Shared Governance scenario. The Canadian agri-food sector fares relatively well in this rules-based environment. Adjustment follows a slower pace so regional pressures within Canada are moderated. Both policy and institutional arrangements change more gradually within Canada, but the disruptive features of EU and US agri-food policies come under tighter disciplines. The transition to commercial agriculture is somewhat retarded as old-economy mechanisms of supply management and single-desk selling

persist longer, but this is balanced by greater security in the US market and reduced EU/US farm subsidies.

The federal role is stronger under Shared Governance, in the sense that it has more clout internationally and is less of a policy-taker on international agriculture governance. Yet its policy-making function is also much more shared than in the base case, not only with civil society but also with the provinces. Thus it is a context of intensive multilevel governance. The larger provinces in particular will engage increasingly in agricultural diplomacy, and the number and complexity of provincial international undertakings will rise. The organization of intergovernmental relations to reach coordinated, substantive policy positions and to implement complex international undertakings, will require Canadian governments to move up several notches from base case practice. Under this scenario there is more time to adapt existing federal-provincial mechanisms to the new environment, but adapted they must be. Even more so than in the Global Club, Canada would have to adopt more formal, legally entrenched, binding decision rules, and more transparent and accountable mechanisms, to upgrade its intergovernmental relations. (more aggressive, centralized decision-making would not work as well under this scenario). Institutions and processes in the EU, Australia and Germany would provide models.

The opportunity in the Shared Governance scenario is to encourage the provinces to pursue their own regional strengths with the confidence that the rules of the game are balanced and less subject to disruption. The federal challenge will be mainly one of coordination in a more open, democratic, and diffuse policy-making world. The up-side is that this transition would occur in a more serene interregional context of market adjustment compared with the Global Club. There is also less regional friction over sharing federal transfers, and responding to social and rural concerns.

The federal-provincial relations under Cyberwave are greatly reduced and much less

formal. Government involvement in the agricultural sector is limited to maintaining a legal and policy framework for rapidly evolving land-based activities. Governments have great difficulty just in keeping up with fast-moving developments, and thus can only afford intergovernmental relations that, with the rest of its governance, "lie low and move fast". Most of the international institutions discussed in the previous scenarios continue to exist but the rules and disciplines are perceived as guidelines, and usually ignored in favor of expediency. Domestic legislation for agriculture is also largely irrelevant as rural activity is increasingly diverse and unrelated to farming activity. The provincial governments are closer to the action, but in comparison with the base case, have much less ability to shape their respective agri-food sectors. Overall, the context of intergovernmental relations is competitive, not cooperative, as governments abandon complex intergovernmental management of agriculture -the remaining focus is on essential coordination of horizontal framework policies.

The challenge for federal management of intergovernmental relations in the Cyberwave scenario will be to sustain effective relations in this diffuse, decentralized and fast-moving environment. Compared with the Global Club and Shared Governance, the institutions of intergovernmental relations would not need a major overhaul as such. However, each government's internal organization will need to be focussed more and more to deliver effective horizontal policy solutions. Therefore, strict sectoral lines of ministerial and official-level meetings would not be effective. This new context will require more flexible, informal intergovernmental mechanisms, with more attention to overall intergovernmental management at the central agency and the political level. The dangers in such political/ central agency coordination of intergovernmental relations are that policy solutions take a back seat to jurisdictional wrangling and regional competition.

Under Regional Dominators, Canada's interests would be in retaining WTO and NAFTA

rules and disciplines to manage US protectionism. However, as the leaders of the major blocs would tend to ignore international rules, the Canadian imperative would have to shift to using NAFTA and the FTAA framework. The federal hand will be strengthened in relation to the provinces because the provinces will have less room to exercise international diplomacy and multilevel governance. Moreover, the need to maintain a coordinated position vis a vis Washington becomes much more vital than in the base case. While incentives are strong for the provinces to work more closely with Ottawa, the challenge will be to sustain this harmony in the politically charged context of a declining agricultural sector overall and potentially sharp regional adjustments.

Dealing with regional disparities in farm income and adjustment costs becomes the most significant regional and political issue in domestic terms under this scenario. In this respect it is worse than the base case because regional agricultural disparities will be deeper and more protracted. There would be strong pressure from the prairie export regions and the Atlantic Provinces for federal assistance, while Ontario, B.C. and Quebec would seek import protection. However, limited financial resources, and US dominance in trade would make these demands unrealistic. In purely economic and demographic terms, agriculture will merit less attention in the Regional Dominator scenario, but one cannot predict the political effect that a sharply declining agricultural sector would have on intergovernmental affairs.

The Regional Dominator scenario will also require a more comprehensive approach to the variety of regional and intra-industry attempts to influence US behavior. Pressure to resort to the use of bilateral commissions and formal understandings (managed trade) will be much stronger, including to deal with technical standards, biotechnology, and the environment. Bilateral accords would be proposed to help manage cross-border relations for sensitive products. The federal government would have to take a careful and comprehensive policy approach to the use of such instruments, and the

coordination of their use and advocacy by nonfederal actors, such as provincial governments and industry groups.

In summary, under this inward-looking scenario, federal provincial relations and regional politics will be tense. One does not foresee the need for significant reform in the nature and capacity of existing intergovernmental mechanisms, but pressure for more regionally sensitive and politically legitimate decisionmaking in Ottawa is likely to increase.

FIGURE 1: SCENARIO SUMMARY CHART - AGRICULTURE

GLOBAL CLUB

SHARED GOVERNANCE

Logic

- WTO negotiations flounder
- trade crisis, policy stalemate
- US/EU brokered deal in WTO; backed by IMF/WB; sectoral free trade with exceptions
 - Club imposes rules and standards

- Millennium Round succeeds
- level playing field gradually emerges
 - virtual free trade by 2015
- substantial financial/technical assistance

diverse, democratic, balanced institutions

Distribution of

- US/EU monopoly of policy with support/acquiescence of others
- Caims Group, Japan, China, ASEAN and Latins retain some leverage

strong multilateral trade rules, US market more

Canada uses WTO to balance US

power-sharing with US/EU leadership

codes and standards emerge slowly

secure

- less developed are marginalized
- Canada has diminishing policy and regulatory flexibility
- nations share role with provinces, NGOs and
 - others
- international institutions strengthen, less strict adherence to food safety, scientific codes
 gradual strengthening of regional coalitions

Governance

- Club-enforced market-oriented rules and standards, Canada aligned with US
- diminishing exceptions sugar, rice, dairy (fluid), food security
- international agreements managed by Club

CYBERWAVE

REGIONAL DOMINATORS

Logic

- unrestrained technology revolutionizes food sector
- agriculture thriving source of food, fibre and services
- consumers and innovators prevail
- open competition in continental setting

widely dispersed, rapid shifts

Distribution of

Power

- policies and institutions ineffective, regionally fragmented
 - Canadian food integrated in N. A. model

legal/policy framework with limited intervention

Governance

- borders hardly relevantsmaller groupings emerge around activities
- smaller groupings emerge around activities and regional markets

- weak global framework and national rivalry leads to regional blocs
- agriculture consolidates within blocs, turns inward
- global trade and commerce declines
- rules and standards become regional, change frequently, trend to "managed" trade
- US dominates Hemisphere trade led by powerful MNEs

multilateral disciplines ineffective

protectionist interests strengthen

bloc leaders prevail, others weak

- strong influence by regional MNEs
- role of NGOs, farm lobby groups narrows

GLOBAL CLUB

Economic Growth and Structure

- prosperous global economy, expanding food markets, except less developed
- processed products stronger, commodities less
 - commercial farms, processing, retail thrives
- consolidation, vertical integration proceeds
- rapid trade liberalization for less sensitive sectors

Role of National Governments

- Club leaders and allies highly influential
- more alliances and managed relations
 - some regional coordination
- Canadian influence limited, closely adhere to WTO and US rules and standards

International

Institutions

- WTO dominant under US/EU leadership, also IMF/WB in economic, financial policy
 - regional agreements play role
- strong codes and standards enforced

ANKS

- enhanced role at all levels
- influence investment, trade, rules and codes
- US/MNE led food systems dominate

SHARED GOVERNANCE

- moderate, balanced growth, commodities stronger
- investment and technology broadened
- regions, rural areas gradually fare better
 - broad and gradual trade liberalization
- strong influence, some through coalitions
- broad consultative arrangements
- federal role strengthened, provinces share
- WTO role broadened, influence grows gradually regional agreements lead, complement
 - global, compromise accords emerge for new interests, environment, GMOs
- rules and standards are balanced but weaker
- less influential but important
- tighter rules including competition, financing, technology transfer
- more responsive to new issues

ave Regional Dominators	volatile growth • slow growth, uneven, limited	innovative, many new foods, medical • damaging inter-bloc rivalry, exports sectors shrink entry, exports sectors shrink	ons, widely dispersed, • free trade (often "managed") within blocs	and restructuring • huge adjustment to commercial mode	rents • weakened, refrenchment	 bloc leaders (US) dominate provinces fragmented, limited role 	regions • lobbying shifts to Washington	A wanes • limited scope for rule-making, weak	 regional trade is MNE manipulated nents standards and regulations are regional, change frequently 	nd wane • powerful within regions • MNE - led food systems, consolidated • resist government interference
Cyberwave	vigorous, broadly-based, volatile growth	strongly innovative, many components, energy	moderately-sized operations, widely dispersed, integrated	continuous diversification and restructuring	reduced influence, trail events	wide, diverse client base horizontal coordination	some focus on issues and regions	influence of WTO/NAFTA wanes	trade disputes subsumed by changes weak framework arrangements	corporate networks rise and wane little policy influence
	•	•	•	•	•	• •	•	•	• •	• •
	Economic, Growth and Structure			cole of National	Role of National Governments				MNEs	

- influence weakens
- contained in WTO process
- accept club-imposed standards

Form of Integration

- accelerating harmonization in regions
 - investment and technology leads
 - US corporate-driven markets

Social/Rural Fabric

- protected sectors exposed
- transition assistance given
- populated regions prosper

Environment

- Club rules and standards enforced
- emphasis on "green and clean"
 - standards benefit Canada

Shared Governance

succeed with main agenda

- active players in rule-making
 - formal role in policy process
- balanced reforms and adjustment
 - slower but accelerating
- food security, culture, ethics respected
- agreements respect multifunctions
 - slower adjustment, less friction
- more assistance to underdeveloped
- international rules and standards
 - emerge slowly, broadly applied gradually enforced

Cyberwave

NGOs

- most fail to keep up
- some local/regional influence

Form of Integration

- widely dispersed development
- evolving product systems

Social/Rural Fabric

- rapid adjustment, inequities
- rural-based activity expands
- continuous diversification

Environment

- issues generally submerged
- some technology-driven advances

Regional Dominators

- roles shrink, variable
- protectionist influence
- regionally strong, fragmented across blocs MNC led linkages
- depressed rural sectors
- farm exodus accelerates
- social tension, bloc disparities
- no consistent regulations, manipulated
 - depleted resources