CAPI
THE CANADIAN AGRI-FOOD POLICY INSTITUTE

May 11, 2021

What We Heard:

CAPI'S BIG SOLUTIONS FORUM TRUSTED OPINION LEADERS PRE-DIALOGUE

Introduction

About a year and a half ago, the Canadian Agri-Food Policy Institute launched a research program under the theme "Creating Prosperity from Chaos." Initially, the chaos referred to disruptions in global trade, the sustainability of agri-food systems, and food security. Chaos took on a new meaning when the pandemic began, impacting the health and wellbeing of all and bringing a chaotic "new normal" to our daily lives.

The Creating Prosperity from Chaos program culminated in May 2021 at the Big Solutions Forum (BSF). The first day of the BSF was an invite-only Dialogue. It included a Keynote Speaker and a presentation from CAPI that outlined the conclusions reached through the year-long program and challenged participants to think of solutions.

It was generally agreed that the Canadian agri-food system has great potential and the capacity to contribute to sustainable food production, global food security and climate change solutions while improving its competitive advantage. Conclusions indicated clearly that Canada has "environmental competitiveness"; Canada is one of a few countries with biocapacity surplus, has low GHG intensity of agricultural products, which is lower than most in the class. It also has the ability to sequester significant amounts of carbon in forests, grasslands and croplands. The key question then is "how do we protect and improve it while getting the most value from this unique competitive advantage".

There is a consensus that we need to approach strategy, policy challenges and opportunities for Canada's agri-food system with a One Health approach and at the nexus of "trade-climate change-sustainability-food security". Successful outcomes demand paying attention to each one of these categories.

After the presentation by CAPI, the participants were put in Break-out Groups and tasked with discussing a series of questions that arose from the presentation. Highlights from the discussion are provided below with the fourth question set addressing the actions that are required to ensure Canada can achieve its great potential to prosper and remain competitive while addressing climate change, preserving its natural capital and biodiversity, contributing to One Health and global food secturity well into the future.

Conclusions Theme 1:

Sustainable Intensification, Climate, Animal and Plant Disease Risks and a One Health Approach

The Canadian agri-food system enjoys certain environmental/comparative advantages provided by natural resources, geography, technology and know-how in producing agri-food products. Canada does and could continue to contribute to the provision of food supplies and food security and to climate change (CC) solutions by offering agri-food products with low GHG intensity. But we cannot rest on our laurels. As an exporter we need to (1) maintain and improve our competitiveness by improving sustainability and productivity jointly; (2) reduce risks to our agri-food system, and to global food security, from plant and animal diseases. Hence, the future success of Canada's agri-food system (AFS) will require concerted effort to achieve sustainable productivity gains, as sustainable intensification and improved productivity are essential for:

- Reducing GHG emissions, improving resource use efficiency and environmental outcomes (water-soil-biodiversity),
- Securing farm profitability,
- Improving food security, domestically and globally.

Climate change has been shown to have negated agricultural productivity gains of the past seven years in most countries, except for Canada and Russia.[i] However, climate change is only one of many risks that could threaten agricultural production, both domestically and globally. The current pandemic clearly delineated the potential and catastrophic impacts of zoonotic diseases on human health, food security and socio-economic health. Research shows that the health of plants, animals and humans are intimately connected and benefit from soil health, microbiome and plant and animal biodiversity. Therefore, soil health, the microbiome and animal health play an important role in preventing pandemics, such as the one we are currently facing, through this interconnection. This is referred to as "One Health".[ii]

Improving productivity through investments in public and private research that takes a One-Health approach while adopting the right regulatory frameworks will be critical for sustainable intensification that is good for plant, animal, human and socio-economic health and hence for the future prospects of the sector.

To understand the feasibility and requirements of achieving this outcome, CAPI asked the following questions to trusted opinion leaders:

Question Set 1:

Do we have the right knowledge, innovation and dissemination systems that could embrace a One Health approach to improve sustainable intensification while contributing to Climate Change solutions?

How do we design the right policies and strategies that will create results for the future of the agri-food sector?

- Canada has the scientific knowledge, technology and know-how to continue to improve agricultural productivity with low GHG intensity of its products and improved environmental outcomes. However, these pieces are very compartmentalized, not coordinated properly, and no single technology could meet all product requirements.

- We lack the culture and institutions to encourage multi-disciplinary approaches to research. The desired linkage between scientists and social scientists is rare or does not exist and is not promoted by keeping the granting agencies in separate siloes, e.g., NSERC vs SSHERC vs CIHR. We need outcome-based socio-technology bundles to produce the desired characteristics and be able to derive economic benefits from them.[iii]

- Investment in new technology development is often wasted as it is not adopted as quickly as it should because considerations of consumer trust and behaviour are not included in the development process. For example, the arctic apple is no longer owned in Canada despite significant Canadian investment in that technology, golden rice is another global example resulting in unmaterialized commercial, human health and food security gains.

- It is also essential that good practices are converted into economic gains by labeling products transparently with the relevant and credible information about their health, nutrition, and environmental footprint etc. This requires well established public-private partnerships. Farmers who are adopting new technologies (i.e. precision ag tech) are not capturing value in the markets as their products are not differentiated from others. We must also be able to tell the full story of inputs and outputs (including ecological and human health) in our industry, and agriculture's contributions to climate change solutions. There is a need to explain the environmental, trade, economic and food security benefits of sustainable intensification. And we are lacking the data, metrics and standards to be able to do so.

- Producers, in general, ramp up the adoption of innovations whether pushed by shocks, such as COVID, or by consumer demands. A lot of change/innovation is driven by down stream demand for product attributes, from retailers to producers. COVID is inducing development and use of robotics in production globally. In other words, producers need incentives to change their behaviour and adopt new technologies or practices. They want to know "how it will affect my bottom line" and "what is in it for me?" For this reason, producer groups increasingly demand extension and technology/ knowledge dissemination services to complement investments in innovation. And while there are significant subsidies to agriculture around the world, they could be reconfigured to provide these incentives for better outcomes.

- Investors are seeking ESG investment options which create opportunities for the sector to benefit from improved environmental and health outcomes.

- Producers are concerned about being left out of Canada's food policy and climate change policy, and weary of the way the sector is being painted as an environmental laggard lately. The One Health approach must be made palatable at the farm level as a key risk management/ harm reduction tool which ultimately would have a positive impact on farm profits. This approach needs to be accompanied by coherent enabling policies and regulations for the introduction of proper tools and support to the sector that could promote foods that are safe and nutritious for human consumption and contribute to ecological health. We may be missing a supercluster of regulators with a multi-disciplinary approach.

- Despite shared mandates, there is a strong feeling amongst participants that the government still works in siloes when it comes to dealing with joint outcomes of the AFS- namely food-health-environmental outcomes. The same is true for science and social science communities, and the jurisdictional issues amongst FPT governments which exasperate the situation. Industry and academia are also guilty of working in silos as well.

Conclusions Theme 2:

Adding Value in the Canadian Agri-food System

Several years ago, the Advisory Council on Economic Growth (ACEG) set ambitious growth targets for Canada's agri-food sector ($85B by 2027), requiring a doubling of Canada's agri-food export share and a boost in value-added production. At the same time, vulnerabilities raised during the early months of COVID about the sector's resilience and concerns about food security, climate change and the environment by consumers and investors are leading to calls for greater value- added food processing capacity in Canada. This will require increased investments.

We know that world population and income growth are expected to continue post COVID and that this will propel the growth in demand for high value products world-wide, providing growth opportunities for Canada. Canada already ranks high for having a good reputation for producing high quality, safe and sustainable food products, faring well in ESG ranking. Canada has demonstrated an ability to create high value, niche products in the past exported to key premium markets. But it has also seen processed imports from the US grow in importance. Canada still lacks the scale to be able to compete and grow exports as only a small percentage of processors are large in this country. Adding value by making sustainability and health attributes a competitive advantage can improve the sector's prospects and boost resilience and domestic food security concerns, but this requires standards and metrics that are recognized and accepted by consumers here and abroad. Other conclusions reached were that:

- **Sustainable agri-food supply chains** are essential for resilience of all sector participants and domestic food security;
- Growth in value-added capacity will require **the right business conditions** to attract investments & the **right sustainability standards and metrics;** and
- Canada's past successes could be repeated for the **high value products** with characteristics demanded by markets.

To understand the feasibility and requirements of achieving this outcome, CAPI asked the following questions to trusted opinion leaders:

Question Set 2:

What will it take to develop and produce more value-added in Canada?

What other ways, in addition to processing could we consider for developing greater value? Do we have the right business conditions, standards and regulatory framework to attract investment in value added in Canada?

- Increase scale: By increasing scale, Canadian food and beverage (FB) processing firms can reduce costs and increase efficiencies, allowing them to compete domestically against imports and internationally. But this involves investments in new capital and new technologies that increase productivity, such as increased automation. This will require more highly skilled workers that can support new advanced technologies and contribute to the competitiveness of Canadian FB processing establishments.
- Diversify and find new markets abroad: Canada is very reliant on the US market for its processed product exports due to its proximity and similarity and integration. By finding new markets abroad Canadian FB processors can expand production and diversity of value-added products that meet those new market requirements. Trade generally leads to the ability to scale up. But Canada needs to do more trade advocacy work and expand boots on the ground to develop and service these markets. Implementing existing trade agreements more fully will also be important.
- Promote the development of niche products that can be sold in premium markets abroad: Canada has experience in the past developing and producing niche products for premium markets (e.g. Japan). If enough markets are found for these niche products, processors can increase scale with the resulting competitiveness advantages.
- Capitalize on Canada's "environmental comparative advantage: Canada has a good reputation and a comparative advantage in natural resources and sustainable production, which can provide opportunities for marketing higher value products that are sustainable. However, this requires reliable standards and metrics that are based on science and well recognized and accepted by consumers so they can benefit from the higher value and benefits to society that result.
- Provide better data and information that can educate consumers and dispel any myths around Canada's environmental performance. Government can play a role in data development and in helping educate consumers and the public on the benefits of Canada's environmental advantage. With better information, consumers will increase the demand for these higher value sustainable products with characteristics consumers want.
- Canada should take a leadership role in international standards-setting processes to be proactive in shaping market requirements for sustainable, environmentally friendly products rather than waiting for having them determined elsewhere.
- Continue to promote trade liberalization through new free trade agreements (FTAs) and work towards more fully implement existing ones. Non-tariff barriers (NTB) around higher value processed products are often more difficult to address through current trade rules.
- Canada's policies and regulations across provinces, industries and government departments are not well aligned and different market regulations, standards and licensing across provinces and industries are creating barriers to investment and to the seamless marketing of products across provinces and internationally.

Conclusions Theme 3:

Rules-based Trade- New Approaches to Multilateral Relations

Canada is among the most export-dependent agriculture and food producing countries in the world and therefore is also one of the most threatened by the weakening of the rules-based system governed by the WTO. This has put us at a significantly worse comparative disadvantage relative to the U.S., China and the E.U. We have also suffered from investor uncertainty as NAFTA was being renegotiated, CPTTP was being undermined by the U.S. non compliant agricultural trade agreement with Japan and Canadian exporters were being stymied by the inability to get the E.U. to honour commitments in CETA.

This is not only depressing economically and causing deep division within the agri-food sector but has ramifications for the world as two things are clear. Africa, Asia and the Middle East are becoming increasingly food deficit and all countries are taking on commitments to lower GHGs of which 23% globally relate to Agriculture, Forestry and Other Land Uses (AFOLU). Canada is increasingly agricultural surplus and has one of the lowest carbon intensity agricultural production systems in the world. Hence, there was a general acceptance of the CAPI presentation conclusions as to the broad understanding as to how deeply that is connected to domestic agriculture and food policy. Specifically:

- Rules-based trade is essential to growth of sustainable production and food security.
- Different country climate change policies have the potential of further distorting global trade.
- The current geo-political climate requires new approaches for global solutions.

The following questions were addressed by trusted opinion leaders around these conclusions:

Question Set 3:

How could domestic policies be designed:

- to ensure Canada can remain competitive in global markets while addressing climate change, boosting sustainable food production and food security and
- to ensure Canada can build leverage and influence international rules-making with like minded partners to become a legitimate global soft power?

Three areas were seen as critical for action in order to remain competitive, address climate change and food security, build leverage and influence through the exercise of soft power.

- Recognize that food security is not just a social imperative but due to climate change a growing global strategic risk and our ability to increase production with low carbon intensity and relatively low impact on the environment can be a transformative asset.
- Recognize that our governance and policy has accentuated our issues of size and made it difficult to scale due to the highly siloed system with shared FPT responsibilities for agriculture making trade between provinces more difficult than trade between European states while significantly increasing transactions costs and slowing investment.
- Recognize that Canada as the 5th largest importer and 5th largest exporter of food, officially bilingual and with a highly skilled and diverse ethnic mix has key strengths to increase its influence in global organizations and key growth markets of Asia and Africa.
- Canada is a relatively small populated country stretched over a large geography with highly siloed players and with agriculture being a shared Federal/Provincial and Territorial jurisdiction. This challenges strategy and has the effect of making the agri-food system incredibly difficult to achieve competitive scale. Therefore, a concerted effort must be made to find ways to lower transaction cost and improve investment prospects.
- There have been numerous suggestions to facilitate regulatory modernization working horizontally across government looking at Federal, Provincial and Local regulations which needs to be done focusing on outcomes. At the top of the list would be harmonized regulatory and program approach to animal health/zoonotic disease risk management (e.g. via the Animal Health Canada concept).
- There was concern that our ability to scale through export was threatened by the weakened rules-based WTO system and therefore support for working with like minded countries to both repair damage to the WTO and build plurilateral work arounds. In that regard many felt that Canada could lead with its competitive advantage of environmental strengths in AFLOU and low carbon intensity food production.
- Several expressed the need to focus global players on reducing negative externalities by redirecting global agricultural subsidies to positive externalities. The need to monetize carbon sequestration – regenerative ag and carbon farming was seen as a natural extension of that for Canada.
- It was noted that to strengthen our bargaining power in international discussion we need to become less export dependent. There is a growing opportunity with Canada's import percentage of consumer foods having grown from 15% in 1992 to 30% today. As external demand grows it will be increasingly profitable for the Canadian supply chain to have domestic processing alternatives.
- It is also notable that our Canadian processed food market has become a valuable market for a number of other countries. For example, 25% of all U.S. processed foods go to Canada providing significant leverage in trade discussion.
- The point was made that while we want to attract FDI we need to find ways of keeping more of our growing small companies Canadian rather than selling out to foreign multinationals. This would require equal work on both attracting FDI while recognizing that food is essential to security and therefore worth of updating foreign investment screening rules. However, at the same time we need to recognize that as food is a socioeconomic driver, more needs to be done to build powerful Canadian food brands with highly resilient and growing supply chains.

Conclusions Theme 4:

Policies, Institutions and Regulatory Systems for a One Health Approach and a Trade-Climate Change-Sustainability- Food Security Lens

We live in an era where 75% of emerging infectious diseases are of zoonotic origin, and mortality from infectious diseases (pre-pandemic) have increased for the first time since the 19th century. Antimicrobial resistance (AMR) in some parts of the world is out of control and the World Bank (2018) estimates that AMR may reduce world GDP by upwards of 3.5% annually by 2050.

The biggest and relatively untapped opportunity is in our ability to use multidisciplinary knowledge to create solutions. A part of this solution is adopting a system-wide One Health approach, which is critical to the future success of the industry. One Health includes the entire eco-system health as plant-animal-human health is a natural extension of eco-system health. It is a sustainability and resilience issue.

The required efforts will demand resources, investment in infrastructure, in knowledge and innovation systems, in some cases creation of new institutions and systems to replace what is not going to move us forward.

The fourth and final question posed to trusted opinion leaders provided the key action areas needed overall:

Question Set 4:

How could our policies, institutions and regulatory systems be designed to:

- encourage a "one-health approach" in science, innovation and regulatory policy development?
- use trade-climate change-sustainability nexus as a lens in policy development process?

The responses summarized below reflect the majority views and provide the overarching action areas that are needed to address all elements of the Big Solutions Forum. These include:

Systems Thinking

- Systems thinking for risk management: With a One Health approach, we need to use a plant-animal-human health lens in all we do. While the original concept evolved around plant, animal, human health, research clearly shows that these are not separable from soil health, microbiome, water quality and climate change. Therefore, a One Health approach encompasses the entire ecological system.
- Investment decisions on research and innovation require socio-technological bundling to yield the desired outcomes. We are all very siloed and are not using a holistic approach. We need to develop an interdisciplinary work culture at all levels; projects, programs and institutions if we are going to do it right. We need bundling and we need to let go of vested interests.
- There needs to be some institutional arrangements since this is what usually works when there is an overarching responsibility to bring an interdisciplinary approach to policy. Horizontal integration across AAFC, CFIA, PHAC, EEEC could be a good starting point with a clear and mandated priority to adopt a One Health approach.
- Industry buy-in and expressed need for this to happen is critical to policies to move in this direction. Investors are seeking ESG options and industry should be interested in creating desirable investment opportunities. Systems thinking in HR development for the outcome-based socio-tech bundles that could transform education, knowledge creation and dissemination systems to meet the future needs of the sector and contribute to CC solutions and to food security.
- Knowledge of the policy coherence and industry performance will be needed for industry performance as well as consumer support, in this context a knowledge platform for data creation, knowledge dissemination, and legibility will be required.
- Farmers as "managers of carbon, nitrogen, and phosphorous cycles to produce food, fuel, energy, protein and improve ecosystem health, soil and water quality" need to be in support of such policy development.
- Industry can, and needs to, play a role in influencing provincial, federal or even municipal governments when coherent policies are needed across the country, not being moved through the FPT process.

Strategic Thinking

- More system-wide, strategic thinking is needed in designing policies that develop forward looking strategies driven by what will be Canada's advantage in 20-30 years.
- Start discussing what sort of platforms we need to enable sustainable health, sustainable businesses, and a sustainable environment.
- Evaluate the existing policies and policy development processes in terms of their impacts in moving the Canada's AFS forward.
- Evaluate the risks, since facing the risks will produce better strategies with "what if a particular strategy does not work" option.
- Rethink and remodel the FPT processes. Progress requires a coherent shift to drive Canada as a leader on international standards and in determining how to adopt sustainability/ One Health as a future growth strategy. This may require a shift in FPT relations and more specifically province to province relations to move away from "me-too" approach and to focus on shared gains.

Public-Private partnerships

- Public-private partnerships are critical to provide credible standards and labeling for producers to capture value from markets for the innovative practices that result in products with credence attributes such as low environmental footprint, nutritional quality etc. Building trust is imperative to develop markets and to extract economic value for these products.
- Emission trading systems are another way of capturing value for the sector's contributions to CC solutions, but they also require well understood and measurable standards and functioning carbon markets, which could be established through public-private partnerships.
- Develop a systematic way of sharing the burden of radical transitions for the betterment of the AFS.
- Evaluate the needs of the sector that are not private goods: infrastructure, market and trade information.
- Resilient systems require redundant capacity. In the case of emergencies, the redundancy in ASF could function as a public good by securing domestic food security. Hence, some thought should be given to public-private partnerships for keeping some redundant capacity.

Aspirational Leadership from Public and Private Sectors

- The future will be ever more complicated and call for difficult choices. Aspirational leadership from public and private sector will be essential to move the AFS forward successfully.
- Canada's Agri-food System (AFS) has been successfully improving its practices and environmental outcomes. However, this is not being understood and appreciated by a sizeable portion of the population. Leadership is critical in telling the story of the AFS to Canadian consumers.
- Canada has international credibility and shows well in international rankings regarding ESG, competitiveness and quality of life, which can help us address some of the trade-sustainability issues that were identified. Public and private leadership is required to tell the story of the Canadian agri-food system and make sure any change in trade rules reflects good science and data and not misconceptions about the sector. If Canada does not take steps now to be a leader it may lose its capacity to influence the development of its own agenda.

[i]Ortiz-Bobea, A. et al. 2021. "Anthropogenic Climate Change has Slowed Growth in Agricultural Productivity". Nature Climate Change. Vol 11, April 2021. Pp. 306-312.

[ii]World Bank. 2018. "One Health: Operational Framework for Strengthening Human, Animal and Environmental Public Health Systems at their Interface".

[iii]Barrett, C. B. et al. "Bundling Innovations to Transform Agri-food Systems." Nature Sustainability. Dec. 2020.