PEACE RIVER REGIONAL DISTRICT

Electoral Area Directors Committee

Revised Agenda

August 20, 2020, 10:00 a.m.

1981 Alaska Avenue, Dawson Creek, BC

Pages

1. Call to Order

1.1 Director Goodings to Chair the meeting

2. Directors' Notice of New Business

3. Adoption of Agenda

4. Gallery Comments or Questions

5. Adoption of Minutes

6. Business Arising from the Minutes

7. Delegations

8. Correspondence

9. Reports

10. Discussion Item(s)

10.1 Memberships - UBCM and NCLGA

11. New Business

*11.1 Permissive Tax Exemption

12. Diary

12.1 August EADC Diary 187

13. Item(s) for Information

14. Adjournment

PEACE RIVER REGIONAL DISTRICT

ELECTORAL AREA DIRECTORS COMMITTEE MEETING MINUTES

DATE: June 18, 2020

PLACE: Regional District Office Boardroom, Dawson Creek, BC

PRESENT: **Directors**
Director Goodings, Meeting Chair
Director Sperling
Director Hiebert
Director Rose

Staff
Shawn Dahlen, Chief Administrative Officer
Tyra Henderson, Corporate Officer
Teri Vetter, Chief Financial Officer
Paulo Eichelberger, General Manager of Environmental Services
Trish Morgan, General Manager of Community Services
Crystal Brown, Electoral Area Manager
Kari Bondaroff, Environmental Services Manager
Gerritt Lacey, Solid Waste Services Manager
Trevor Ouellette, IT Manager
Naomi Donat, Recording Secretary

Call to Order — The Chair called the meeting to order at 9:20 a.m.

DIRECTORS NOTICE OF NEW BUSINESS:

Director Hiebert	UBCM Resolution, Ranching Concerns
Director Sperling	Orphan wells
Director Rose	Planning
Director Goodings	Gotta Go

ADOPTION OF AGENDA:

MOVED by Director Hiebert, SECONDED by Director Rose,
That the Electoral Area Directors Committee agenda for the June 18, 2020 meeting, including Directors' new business, be adopted as amended:

1. Call to Order
   1.1. Director Goodings to Chair the Meeting
2. Directors' Notice of New Business
3. Adoption of Agenda
4. Gallery Comments or Questions

Adoption of Agenda continued

5. Adoption of Minutes
   5.1. Electoral Area Directors Committee Draft Meeting Minutes of May 21, 2020
   5.2. Draft Minutes of Special Electoral Area Directors Committee Meeting June 4, 2020
6. Business Arising from the Minutes
7. Delegations
   7.1. Dawson Creek Society for Community Living – Pilot Project for Seniors, Sam Barber, Board Chairperson, *(by invitation of the Committee)*
   7.2. Coastal GasLink Pipeline Project Summer Construction Program, Heather Desarmia, Public Affairs Coordinator; Kiel Giddens, Public Affairs Manager; Melanie Shandruk, Ian McLeod, Rachel Kulasa, and Anthony Heywood-Smith – Project Manager for Wilde Lake Compressor Station
   7.3. Pacific Northern Gas – Update, Brock John, Director, Business Development and Stakeholder Relations, and Al Kleinschmidt, Manager Energy Management & DSM.
8. Correspondence
9. Reports
   9.1. PRRD Grant Writer Services, ADM-EADC-008
   9.2. British Columbia Utilities Commission Complaint Process, ADM-EADC-010
   9.3. Charlie Lake Sewage Collection Network Feasibility Study, ENV-EADC-004
   9.4. Charlie Lake Reclaimed Water Facility Design, ENV-EADC-003
   9.5. Grounds Maintenance of Cemeteries within the Peace River Regional District, CS-EADC-001
   9.6. Item Previously Released from a Closed Committee Meeting, ADM-EADC-011
   9.7. Notice of Closed EADC Session – June 18, 2020, ADM-EADC-009
10. Discussion Items
    10.1. Electoral Area Economic Development Function
11. New Business
    11.1. UBCM Resolution, Ranching Concerns
    11.2. Orphan Wells
    11.3. Planning
    11.4. Gotta Go
12. Communications
13. Diary
    13.1. June EADC Diary
14. Adjournment

CARRIED

GALLERY COMMENTS OR QUESTIONS

None

Vary the agenda

MOVED by Director Hiebert, SECONDED by Director Rose,
That the agenda be varied to hear Delegation 7.1.

CARRIED

DELEGATION 7.1:

Dawson Creek Society for Community Living – Pilot Project for Seniors
Sam Barber, Board Chairperson

The project was initiated to see what could be done to support rural seniors in their homes. The services provided include ready-to-heat meals, cleaning, snow removal, and odd jobs. Seniors commented that the companionship provided by the support staff was also very much appreciated. The society is hoping to be able to supply meals to urban seniors going into and coming out of surgery in July. There was a discussion of how a function could be created to assist urban and rural residents throughout the Regional District. Mr. Barber suggested starting small, with people in the local area. The Chief

Financial Officer agreed to meet with Mr. Barber to discuss financial options for assisting in providing these services.

ADOPTION OF MINUTES:

5.1 EADC Minutes	MOVED by Director Hiebert SECONDED by Director Sperling, That the Electoral Area Directors Committee Meeting Minutes of May 21, 2020 be adopted.
	CARRIED
5.2 Special EADC Minutes	MOVED by Director Rose, SECONDED by Director Sperling, That the Special Electoral Area Directors Committee Meeting Minutes of June 4, 2020 be adopted.
	CARRIED

BUSINESS ARISING FROM THE MINUTES:

6.1	7.1 Correspondence: Director Hiebert asked if PRiS (Peace River Internet Society) had contacted Gloria and Tom Rounds.
Recessed	At 9:58
Reconvened	At 10:28
Vary the agenda	Moved by Director Hiebert, SECONDED by Director Rose, That the agenda be varied to discuss Reports.
	CARRIED

REPORTS:

9.1 Grant Writer Services	MOVED by Director Sperling, SECONDED by Director Rose, That the Electoral Area Directors Committee recommend that the Regional Board approve the preparation of a report on options for the PRRD Grant Writer Services to be brought in house, inclusive of a work plan and budget implications; and further, that the report be provided to the Electoral Area Directors Committee.
	CARRIED
9.2 British Columbia Utilities Commission Complaint Process	MOVED by Director Sperling, SECONDED by Director Hiebert, That the Electoral Area Directors Committee receive the report titled "British Columbia Utilities Commission Complaint Process" dated June 9, 2020 for discussion.
	CARRIED

Director Hiebert will send a letter to the BC Utilities Commission in response to BCUC's response to the Klemmer's compliant.

MOVED by Director Rose, SECONDED by Director Hiebert,
That the Electoral Area Directors send a letter to the BC Utilities Commission asking for clarification of the BCUC complaint process.

CARRIED

DELEGATION Coastal GasLink Pipeline Project Summer Construction Program
7.2

Heather Desarmia, Public Affairs Coordinator; Kiel Giddens, Public Affairs Manager; Melanie Shandruk, Ian McLeod, Rachel Kulasa, and Anthony Heywood-Smith – Project Manager for Wilde Lake Compressor Station

The delegation gave an update of their summer construction program including rights-of-way cleared, construction schedules, road upgrades, and plans for lodging their workers. The company is working with communities and contractors to ensure that they are meeting or exceeding the guidelines presented by Dr. Bonnie Henry, Provincial Health Officer. The company would have usually had an open house, but due to COVID-19, they will be mailing out notices to residents to let them know how to get in touch with TC Energy.

Director Rose asked if the Committee could be provided with a breakdown of workforce numbers to know how many are local, non-local, and local indigenous. Kiel Giddens responded that he can send these numbers for the projects in the Regional District.

Director Goodings asked how many streams will be crossed. Malanie Shandruk will send a report to the Committee.

Director Rose asked if Saulteau Camp is all self-contained in terms of solid waste, sewage, and potable water. Melanie Shandruk stated that contractors get their own permits to take care of these items. Director Rose asked if these applications had been received by the Regional District. Kiel Giddens said that he will send a report to the Committee indicating where solid waste and sewage is being taken.

Director Hiebert asked how future progress will be reported. Kiel Giddens stated that construction updates are made monthly. There is a place on their website to sign up to receive their newsletters. They are using newspaper advertisements and social media channels to get out more information to the public.

Kiel Giddens asked to be provided with any local guidelines that are be above the provincial guidelines. He would also like to receive information on local recreational opportunities for their staff to participate in while they are in the area.

REPORTS

9.3 Charlie Lake Sewage Collection Network Feasibility Study	MOVED by Director Sperling, SECONDED by Director Hiebert, That the Electoral Area Directors Committee recommend that the Regional Board authorize compilation and issuance of a Request for Proposal (RFP) for qualified professionals to conduct a feasibility study to expand sewage collection capacity along the eastern portion of Charlie Lake. **CARRIED**
9.4 Charlie Lake Reclaimed Water Facility Design	MOVED by Director Sperling, SECONDED by Director Hiebert, That the Electoral Area Directors Committee recommend that the Regional Board authorize compilation and issuance of a Request for Proposal (RFP) for qualified professionals to design a water reclaim system at the Charlie Lake Waste Water Treatment Facility. **CARRIED**
9.5 Grounds Maintenance of Cemeteries within the Peace River Regional District	MOVED by Director Hiebert, SECONDED by Director Sperling, That the Electoral Area Directors Committee receive the report titled "Grounds Maintenance of Cemeteries within the Peace River Regional District", dated June 8, 2020 for discussion. **CARRIED** MOVED by Director Rose, SECONDED by Director Hiebert, That the Electoral Area Directors Committee be provided with a report identifying the cost for each individual Electoral Area to conduct lawn maintenance for the existing cemeteries within those electoral areas and what the subsequent taxation increase to requisition would be; the rules and regulations that need to be followed in regards to operating and maintaining cemeteries; and the additional grant dollars required to allow existing cemeteries to remain operational and functioning in the short term. **CARRIED** The Committee directed staff to get a legal opinion to determine if the existing bylaw gives the Peace River Regional District the authority to operate, develop and maintain cemeteries.
Recess Reconvene	The Chair recessed the meeting for luncheon at 12:05 The Chair reconvened the meeting at 1:00

DELEGATION

7.3	<u>Pacific Northern Gas – Update</u> Brock John, Director, Business Development and Stakeholder Relations, and Al Kleinschmidt, Manager Energy Management & DSM. The delegates reviewed each project listed on the spreadsheet provided.

Director Goodings asked if there is still an offer from Canadian Natural Resources Limited for a 20 year supply in the Prespatou/Buick Creek area. Brock John replied that CNRL does not really want to be a utility company. PNG is reluctant to take over CNRL infrastructure that is 50 years old.

Director Gooding asked if the Committee could see the report showing that certain projects are not economical. Al Kleinschmidt explained that the estimates showed that projects were not economical in comparison with what residents' costs are now. The risk was that the costs would be more than what residents are currently paying for propane. More information could be obtained on the potential load, number of clients and volume needed. Brock John explained that using a 40 year depreciation factor versus 20 years does not make any difference in terms of the economic calculations. Al Kleinschmidt agreed to present the economic analysis in a more comprehensive package.

Director Hiebert pointed out that where the table referred to Kelly Lake First Nation, it should be the Community of Kelly Lake instead.

Brock John agreed to put together a summary for the Wonowon community.

Director Rose pointed out that Area E communities are not on the spreadsheet. Brock John asked Crystal Brown to send him the list again.

CORRESPONDENCE: None

Vary the agenda

MOVED by Director Rose, SECONDED by Director Hiebert,
That the agenda be varied to move the closed session to the end of the meeting.

CARRIED

DISCUSSION ITEMS:

10.1 Electoral Area Economic Development Function

MOVED by Director Rose, SECONDED by Director Sperling,
That the Electoral Area Directors Committee recommend that the Regional Board provide authorization for information regarding the establishment of an electoral area economic development function to an Electoral Area Directors Committee meeting prior to the workshop on Regional Grant-in-Aid and Economic Development.

CARRIED

NEW BUSINESS:

11.1 UBCM Resolution,

MOVED by Director Rose, SECONDED by Director Hiebert,
That the Electoral Area Directors Committee recommend that the Regional

Ranching Concerns

Board submit the following resolution to UBCM for consideration at the 2020 UBCM Convention:

WHEREAS residents are concerned with the lack of service that is offered by the Ministry of Forests, Lands, Natural Resource Operations and Rural Development, including a lack of staff with experience or training in ranching related issues, high turnover, and unreasonable delays in communications and approvals; and

WHEREAS ranchers are faced with numerous delays in approvals for fence installation due to the removal of natural boundaries by third party operators; and

WHEREAS ranchers are facing hardships and are unable to properly manage their tenures due to a lack of qualified staff who can assist ranchers with range burning applications;

THEREFORE BE IT RESOLVED that the Union of British Columbia Municipalities petition the Province to bring up staffing levels in the range department so that grazing tenures or license issues are dealt with more timely and efficiently to prevent entire grazing seasons being lost.

11.2
Orphan wells

Director Sperling said that the Committee will receive information on priorities from the BC Oil and Gas Commission.

11.3
Planning

MOVED by Director Rose, SECONDED by Director Hiebert,
That the Electoral Area Directors send a letter to the Honorable Selina Robinson regarding Section 14 of the Local Government Act, Land Use Planning, on Electoral Area Letterhead.

CARRIED

Director Rose will work with staff to write the letter.

11.4
Gotta Go

The Electoral Area Directors gave their support to Director Goodings to develop a service function that will assist with funding for maintenance at the Mile 202 and Sikanni Gotta Go sites, for a period of 9 years.

COMMUNICATIONS: None.

DIARY:

13.1 No changes were made to the Diary.

REPORTS:

9.6
Item Previously

MOVED by Director Hiebert, SECONDED by Director Sperling,
That the following resolution released from a closed committee meeting be

Released from a Closed Committee Meeting

received for information:

MOVED, SECONDED, AND CARRIED
That the Electoral Area Directors Committee research further options for the distribution of connectivity across the region, inclusive of a work plan.

CARRIED

9.7
Notice of Closed Session

MOVED by Director Rose, SECONDED by Director Sperling
That the Electoral Area Directors Committee recess to a Closed Meeting for the purpose of discussing the following item:

- Agenda Items M-1 & R-2 - Closed Meeting Minutes & Items for Release (CC Section 97(1)(b))
- Agenda Item R-1 - Negotiations Related to a Proposed Service (CC Section 90 (1)(k) & 90(1)(j))

CARRIED

ADJOURNMENT The Chair adjourned the meeting at 3:50 p.m.

Director Goodings, Meeting Chair

Naomi Donat, Recording Secretary

PEACE RIVER REGIONAL DISTRICT

SPECIAL ELECTORAL AREA DIRECTORS COMMITTEE MEETING MINUTES

DATE: Friday, August 7, 2020

PLACE: Regional District Office Boardroom, Dawson Creek, BC

PRESENT:

Directors
Director Goodings, Meeting Chair
Director Sperling
Director Hiebert
Director Rose

Staff
Shawn Dahlen, Chief Administrative Officer
Crystal Brown, Electoral Area Manager
Tyra Henderson, Corporate Officer
Teri Vetter, Acting Chief Financial Officer
Trevor Ouellette, Information Technology Manager
Kori Elden, Executive Assistant/HR Generalist
Hunter Rainwater, Recording Secretary

Call to Order

The Chair called the meeting to order at 9:02 am.

ADOPTION OF AGENDA:

MOVED by Director Hiebert, SECONDED by Director Rose,
That the Electoral Area Directors Committee agenda for the August 7, 2020 Special meeting be adopted:

1. **Call to Order**
   1.1 Director Goodings to Chair the Meeting
2. **Adoption of Agenda**
3. **Reports**
   3.1 Notice of Closed EADC Session - August 7, 2020 - ADM-EADC-015
4. **Adjournment**

CARRIED

REPORTS:

8.1 August 7, 2020, Notice of Closed EADC Session

MOVED by Director Sperling, SECONDED by Director Hiebert,
That the Electoral Area Directors Committee recess to a Closed Meeting for the purpose of discussing the following items:

Agenda Item M-1 – Closed Meeting Minutes (CC Section 97(1)(b))
Agenda Item D-1 & R-1 – Negotiations Related to a Proposed Service (CC Section 90 (1)(i) & 90(1)(j) & 90(1)(k))

CARRIED

ADJOURNMENT The Chair adjourned the meeting at 10:13 a.m.

Director Goodings, Meeting Chair

Hunter Rainwater, Administrative Clerk

From: mackeno@xplornet.ca
Date: 07-22-2020 9:04 PM (GMT-07:00)
To: Director Karen Goodings <karen.goodings@prrd.bc.ca>
Cc: mackeno@xplornet.ca
Subject: NP Farmers Institute, July 22, 2020

Hi Karen,

Great reviews re the Rural Roads Video. Jim has let Jackie know that already but I just wanted to let you know what I thought as well.

I have included the report that I put on Facebook. You will notice that there is a new committee called Crop Insurance as this year especially there has been many concerns and unhappiness over the insurance.

What we were wondering, is there any grant or fund that the NPFI could tap into so that there could be a in-depth study of crop insurance, policies, rates, etc. comparing BC to the other Western provinces? Or do you know of any study that has already been done? We don't really want to reinvent the wheel but since Agriculture is on the back burner with this government, it is time to have a look at what is happening here in the Peace. It seems that Victoria makes a policy which is supposed to fit the entire province forgetting that Agriculture here is quite different from farms in the rest of the province.

Thank you in advance.

Margaret for the NPFI

 **North Pine Farmers Institute** 

(Founded 1930 operating under BC Farmers and Women's Institutes Act)

Agriculture, the backbone of our community, province, and country

made possible by dedicated people making a difference.

For further information, please contact: E-mail: northpinefarmersinstitute@gmail.com

The North Pine Farmers Institute held their Annual General Meeting on July 16, 2020. Wade Cusack's shop was a busy place with laughter, discussion, and the most delicious cookies and cupcakes!

Reports were presented concerning:

- The Elevator –owned by the NPFI
- Fosters/Viterra partnership
- The Rural Roads Task Force MOTI is willing to listen to the committee. The committee is part of the Rural Roads Task Force. They have worked to prioritize road repairs, hard

surfacing, slide repairs, pullout construction and brushing areas in the North Peace. Jim presented the priority list identified by RRTF. He also had an in depth report on pullout recommendations prepared for MOTI. NPFI roads committee continues to meet and is working with MOTI as much as possible, there are challenges as managers continually change. DRM has a toll free number that residents are encouraged to use as calls to this number are tracked. The number is 1 800 842 4122. We need to get this number out to the community.

Discussion was held re:

- Orphan wells and the impact of farmers - Call OGC if you have an orphan well that you would like to have cleaned up.
- Code of Practice for Agriculture environmental management from the Ministry of Environment. This program is causing many problems which needs to be addressed by Government. Please contact us with problems or suggestions.
- Production Insurance If you have a claim that has not yet been paid call PI office. We need to investigate different options for crop insurance in western Canada as the current system we have is not working for producers. An action plan is being developed.
- The current state of the agriculture community in our area which is in serious trouble and is in need of help. Letters need to be written to governments detailing problems. Any pictures or details of crop damage or other challenges such as roads you can share will be very useful.

Elections were held for the 2020-2021 Executive

President Wade Cusack

Vice-President Chad Torrie

Secretary-Treasurer Brian Johnston

Directors - Clint Moffat, Martin Moore, Gary Bickford, Blane Meek, Ty Cusack

Chair of the Elevator Committee – Martin Moore (Chair), Esbern Hansen, Gary Bickford, Chad Torrie, Blane Meek, Brian Johnston, Larry Houley, and Wade Cusack

Chair of the Road Committee - Jim Little (Chair), Wade Cusack, Jim Collins, Maurice Fines, Aaron Dirks

Crop Insurance committee – Wade Cusack, Chad Torrie, Ty Cusack

PEACE RIVER REGIONAL DISTRICT

REPORT

To: Electoral Area Directors Committee Report Number: ADM-COW-002

From: Crystal Brown, Electoral Area Manager Date: June 16, 2020

Subject: Future of Food - ADM-COW-002.docx

This report was referred from the July 9, 2020 Board Meeting.

RECOMMENDATION: *[Corporate Unweighted]*

That the Committee of the Whole receive the June 16, 2020 report "The Future of B.C.'s Food System" for discussion.

BACKGROUND/RATIONALE:

At the June 11, 2020 Regional Board meeting, the following resolution passed:

> *MOVED, SECONDED, and CARRIED*
> That the Regional Board discuss the Food Security Task Force report titled 'The Future of BC's Food System' at a future Committee of the Whole meeting to inform its recommendations to the Ministry of Agriculture at the 2020 UBCM convention.

ALTERNATIVE OPTIONS:

1. That the Electoral Area Directors Committee receive the June 16, 2020 report "The Future of B.C.'s Food System" for information.

2. That the Electoral Area Directors Committee provide further direction.

STRATEGIC PLAN RELEVANCE:

☒ Not Applicable to Strategic Plan.

FINANCIAL CONSIDERATION(S):

None at this time.

COMMUNICATIONS CONSIDERATION(S):

None at this time.

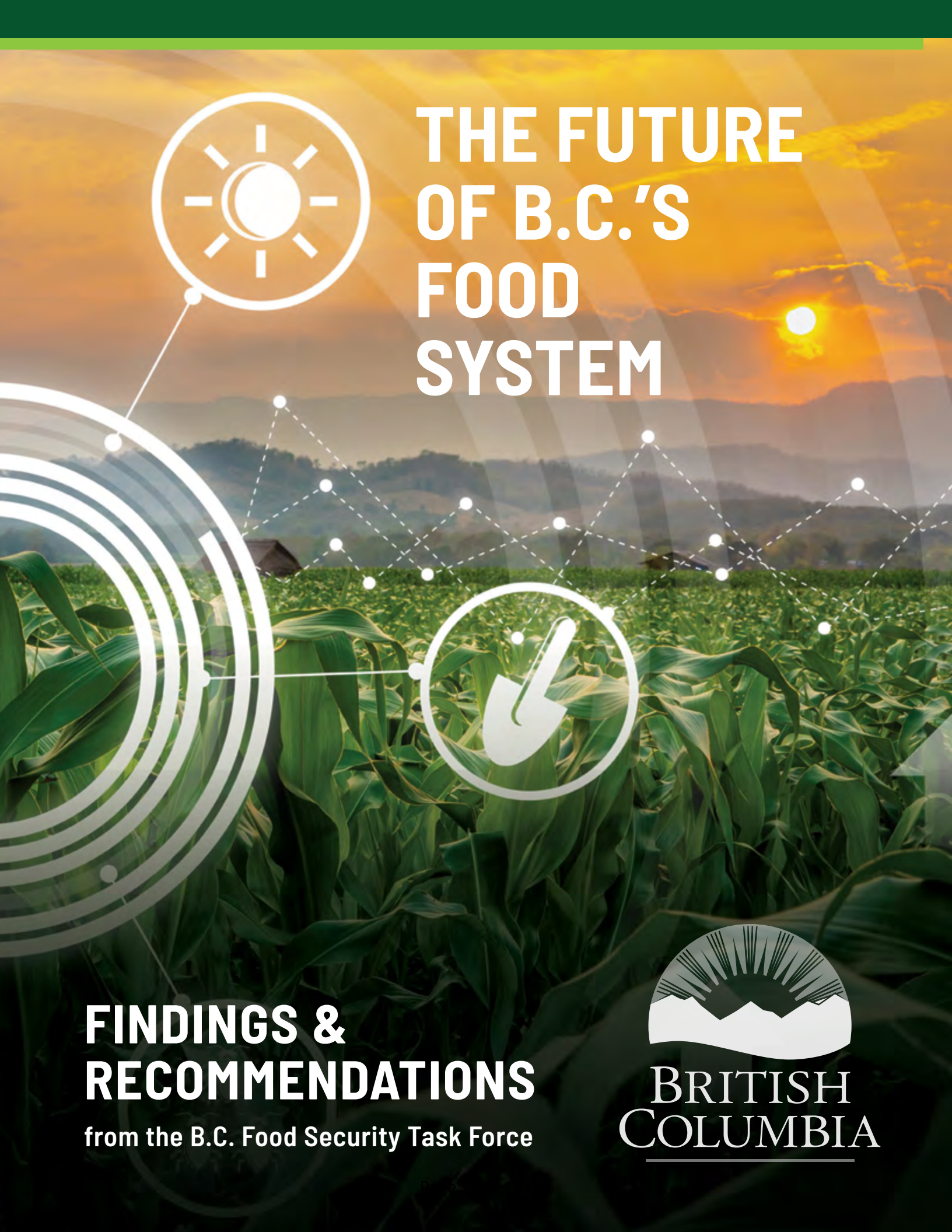
OTHER CONSIDERATION(S):

None at this time.

Attachments:

1. The Future of B.C's Food System Report

Staff Initials: Crystal Brown Dept. Head: CAO: Shawn Dahlen Page 1 of 1



THE FUTURE OF B.C.'S FOOD SYSTEM

FINDINGS & RECOMMENDATIONS

from the B.C. Food Security Task Force

BRITISH COLUMBIA

CONTENTS

1. PREFACE

Dear Premier Horgan:

We wish to thank you for the honour of serving on the Food Security Task Force. It is our great privilege to present you with the following report.

Agriculture is changing. The coming decades will be a time of great challenge and equally great opportunity in the critical systems that feed us every day. The magnitude of these changes is illustrated by the following: In March this year, Mr. Masagos Zulkifli, Minister of the Environment and Water Resources for Singapore, announced that Singapore would aim to produce 30 per cent of its nutritional needs domestically by 2030. This is striking as Singapore has no farmland and no agricultural industry of note.

It is our belief that British Columbia must be equally bold. We face daunting challenges. The United Nations predicts that climate change will decrease global agricultural yields by as much as 25 per cent by 2050, while the population continues to increase. Fewer people will be working in conventional agriculture, as an aging population and increasing urbanization worsens our existing farm labour shortage. Global competition is also intensifying. The Netherlands continues to dominate the agricultural technology ("agritech") sphere, but Israel, Japan, China and Taiwan are quickly joining the competition to supply both our consumers and our producers. We must act now to position British Columbia as a powerhouse that feeds itself and the world.

We believe that with the right strategic initiatives, British Columbia can and will be a world leader. British Columbia has a booming technology sector. We have a strong agricultural brand that is respected everywhere as high-quality, safe and environmentally sound and our ports are a gateway to sharing our food with the world. We have plentiful electricity and water, a booming technology sector and a beautiful, welcoming and prosperous province that attracts talented workers from around the world. We also have a secret weapon: a half century dedication to prioritizing agriculture through land protection and stewardship.

Our Task Force has been guided by a simple question: How can British Columbia lead the next agricultural revolution? We are proposing four bold yet achievable steps. First, we recommend that British Columbia fully embrace the United Nations Sustainable Development Goals as they apply to the food and agriculture sector. This step will deepen our Province's commitment to a sustainable world for our children. Second, we recommend that British Columbia develop a dedicated agricultural technology ("agritech") incubator-accelerator. This recommendation will help establish British Columbia as a source not just of food, but also of the technology needed to grow food in the future. Third, we recommend that British Columbia establish an agritech institute, which will pool knowledge and talent across the academic sector, drawing on and building upon the strengths of our colleges and universities. This recommendation will ensure we have the people needed to guide British Columbia to the forefront of the next agricultural revolution. Finally, we recommend that British Columbia ensures the agritech industry has a place to grow through careful and targeted land use planning. This recommendation will ensure that emerging agritech entrepreneurs can scale their businesses here in British Columbia, providing jobs and economic growth across the province.

Our Task Force was humbled by the talent, dedication and entrepreneurship of British Columbians working in the food industry. In our consultations, we found a hunger for this province to become a world leader in developing a safe and sustainable food system. We would also like to thank our secretariat for their tireless support. Our recommendations will give them the needed tools to face the future with optimism and confidence.

TASK FORCE MEMBER BIOGRAPHIES

The Food Security Task Force brought together a unique blend of academia, industry, global perspective and innovation thought leadership. The Task Force was supported by staff from the Ministry of Jobs, Economic Development and Competitiveness, the Ministry of Agriculture and the Office of the Premier. The Task Force was appointed by the Premier of British Columbia to carry out this work beginning in July 2019.

PETER DHILLON (CHAIR)

As a farmer, Peter Dhillon brought passion, vision and global and industry perspectives to the Task Force. Peter plays a leadership role in several business enterprises, including serving as CEO of the Richberry Group of Companies, an agribusiness enterprise with operations in British Columbia and Quebec. Most recently, Peter was appointed to the Board of Directors of the Bank of Canada. In his diverse roles, Peter is exposed to the fast-changing nature of agriculture and wanted to bring a perspective to his fellow farmers in B.C. about the change that will occur in the food system and use this knowledge to help prepare the industry for what is coming next.

LENORE NEWMAN

Lenore Newman is the Director of the Food and Agriculture Institute at the University of the Fraser Valley (UFV) where she holds a Canada Research Chair in Food Security and Environment. Lenore researches agricultural land use policy, bioengineering in the food system and the role of food and agriculture in the creation of place. Lenore sat on the B.C. Minister of Agriculture's Advisory Committee on Revitalizing the Agricultural Land Reserve and regularly speaks to government and community groups. She has published over forty academic journal articles and two books, Speaking in Cod Tongues (2017) and Lost Feast (2019)—all related to the future of farmland use and other food-related issue.

ARVIND GUPTA

Arvind Gupta is a Professor of Computer Science at the University of Toronto and the University of British Columbia. As the founder and CEO of Mitacs Inc., Arvind achieved international success for interweaving graduate education with business and socio-economic needs by bringing together 60 universities with more than 1,000 industrial partners. As a regular contributor on research, innovation, and advanced skills policies, Arvind firmly believes that a smart industrial strategy informs a smart innovation strategy and is pleased that the opportunity afforded to the Task Force to develop these recommendations sets the stage for this to occur in B.C.

2. VISION AND CALL TO ACTION: THE FUTURE OF OUR FOOD SYSTEM IN 2050

Agriculture is changing. We believe that B.C. has an opportunity to become a leader in the emerging agritech revolution. Countries like Singapore, Taiwan, and Israel understand the necessity of developing agritech solutions to address constraints such as a lack of land or water. Other countries are using agritech strategies to distinguish themselves as global leaders in food production. The Netherlands, for example, has become the second largest exporter of food and agricultural products despite having a land base that is roughly 1/23rd of B.C., while housing a population nearly 3.5 times as large. While these countries may have a head start, the race is just beginning. There is still an immense opportunity in the agritech sector – and B.C. can be poised to seize it.

Technology already plays a major role in the food system. From the adoption of mechanised farm equipment to the recent rise of cloud-based online food ordering services, technology has shifted industrial methods and social practices around food production, distribution and consumption. Today, agricultural technology is redefining what it means to be a farmer. A new generation of farmers is adapting traditional growing and harvesting practices to greenhouses, urban rooftops, shipping containers and other unconventional sites. These new farms often utilize innovative new technologies, such as robotics, drones, LED lighting, monitoring sensors and farm management software.

B.C. is a recognized producer of high-quality, safe, nutritious agricultural products. With over 300 commodities, from fruits and vegetables, to grains and oilseeds, dairy, livestock, poultry, eggs, fish and seafood, B.C. is the most diverse agricultural province in Canada. Innovation is present and relevant in all commodity areas of the sector.

Agritech supports all stages of food production, processing, and distribution. Farmers are increasingly driving research into seed genomics, climate-controlled greenhouses, sensor monitored growing technologies, advanced refrigeration systems and numerous other agritech solutions. They are often at the forefront of meeting shifting consumer demands such as for plant-based alternatives, locally-grown or locally-made food, health food products and environmentally sustainable, traceable protein sources.

As climate adaptation drives agritech development around the world, B.C. also has an opportunity to build on its position as a leader in protecting the environment and mitigating greenhouse gas (GHG) emissions. Our province is already home to more than 150 companies that are active in the agritech sector. In addition to strengths in technology development and an established brand, B.C. has the advantage of land reserved for agriculture that can help to support the development of new growing strategies and demonstrate the agricultural applications of emerging technologies. To share a future where B.C. is a preferred jurisdiction for farmers, food manufacturers, agritech innovators and investment in agricultural businesses, decisive and coordinated action is needed by industry, academia and government.

We believe that the first step is to rethink British Columbia's approach to agriculture and food production. In order to reduce food insecurity and reduce the GHG emissions that lead to climate change, we believe that B.C. should begin with the adoption of the United Nations' Sustainable Development Goals (SDGs). The SDGs provide a framework for sustainable development that centres on social benefit and environmental protection. By incorporating the SDGs into agricultural policy and agritech strategies, B.C. can pursue continued economic growth while simultaneously working towards a just and sustainable future.

Second, we recommend that British Columbia takes steps to foster innovation and agritech development, including establishing a dedicated agritech incubator-accelerator to support budding start-ups and grow existing agritech companies so they become leaders in this sector. The incubator-accelerator will provide physical space for agritech development and testing, while facilitating collaboration between farmers and agricultural producers, technology companies, private investors, academia, and all levels of government. An agritech incubator-accelerator can play a pivotal role in fostering a culture of innovation in B.C. and building a supportive and collaborative ecosystem for the burgeoning agritech industry.

Third, we think it will be important to equip agricultural leaders of the future with the skills and knowledge needed to keep B.C. competitive. We recommend establishing an Institute for Agricultural Excellence to provide focused agritech research and training programs that would supplement the existing capacity and expertise of B.C.'s post-secondary sector. As well as acting as a stand-alone research centre, we envision that an Institute would coordinate and facilitate collaborative agriculture and agritech research across the of universities and colleges in B.C.

Lastly, we believe that British Columbia must protect land for agriculture and agritech, both today and into the future. B.C. has an advantage in this regard with the Agricultural Land Reserve (ALR), ensuring that the most fertile land is protected for agricultural production. With a significant portion of this land unused or underutilised, we recommend a strategy to bring some of that land into greater production by enabling growth of the agritech sector. A land-use strategy that creates specific agricultural-industrial zones within the ALR would allow B.C. to preserve the ALR while ensuring that land of low soil quality, ill-suited for farming but with good transportation connectivity, is maximized. By designating space for innovative and high-tech agricultural production, B.C. can both increase food security and develop a thriving agritech industry.

INTRODUCING PRIYA, A FARMER OF THE FUTURE

Priya lives in a mid-rise co-op built of engineered timber in a walkable Vancouver neighbourhood. She starts her morning early with breakfast at a coffee shop up the street, where she treats herself to a wrap filled with B.C. microgreens and locally produced tempeh made of soybeans from the breadbasket of the Peace Region. The oat milk in her London Fog came from oats grown in the Peace as well, though the tea is from new plantations on the Gulf Islands. Priya is a farmer.

After breakfast, she rides the Skytrain to one of the large agritech innovation centres in Surrey. She is working on a breeding program to create more resilient berry varieties for B.C. growers. The hours roll by as Priya analyses the data from her latest trials, but she breaks early to ride the Skytrain over to the Agricultural Institute where she is taking a training course on the latest greenhouse control technologies taught by instructors from industry and universities. Thanks to seamless cooperation between industry, government, and the academic sector, it is easy for her to routinely upgrade her skills to stay abreast of the latest technologies that she can in turn share with other growers through her knowledge transfer and crop consulting company.

After class Priya grabs some exercise with a jog through a re-wilded farm on the edge of Surrey. In the distance the heirloom grape varieties of a local winery grow beside an agricultural drone company's compact offices. The landscape looks very different in 2050; there is an even greater diversity of crops, and many more opportunities to explore the agricultural landscape. Yet food production is fourteen times higher than it was a few decades ago, and still growing.

3. FOUNDATION ELEMENTS OF OUR WORK

MANDATE AND SCOPE

The mandate of the Food Security Task Force was to make recommendations that support food security and the economic growth of the agricultural sector in British Columbia, focusing on the following three areas:

Increasing the competitiveness, efficiency and profitability of the agricultural sector of British Columbia, through technology and innovation;

Growing the agritech industry as a standalone economic sector capable of developing technologies that will be applicable both locally and globally; and

Supporting the development and application of technologies that can protect the agricultural sector against the effects of climate change and support environmentally sustainable agricultural practices.

Developing a vibrant agritech sector is key to achieving this vision. Agritech refers broadly to the use of technology and technological innovation to improve the efficiency and output of agricultural production. We were charged with assessing the opportunities that agritech presents for enhancing the productivity and profitability of the agricultural sector in British Columbia. However, we should note that our mandate does not extend to seafood and aquaculture. While we acknowledge that the aquaculture sector may also benefit from agritech development, the specific applications of agritech within the aquaculture sector were outside of the scope of our mandate.

We engaged with representatives from across B.C.'s diverse commodity sectors, including diary, livestock, poultry, and horticulture. During our work, we met with farmers, ranchers and processors and learned about the diverse agricultural enterprises in British Columbia, ranging from small-scale farmgate operations to large export-oriented operations. Many farmers expressed a desire to innovate or adopt agritech solutions, yet they often require support to access technologies and adapt them to their needs.

We also had the opportunity to learn about the ongoing work of the Ministry of Agriculture and the Ministry of Ministry of Jobs, Economic Development and Competitiveness, and particularly about the many different programs that support agricultural production, processing, and distribution in British Columbia. The Ministry of Agriculture assists existing farmers with crop innovation, market development and export readiness, while also enabling new farmers to enter the sector through a land matching program. Their work is bolstered by programming and initiatives, provided by ministries and Innovate BC, and the Technology and Innovation Policy Framework – a roadmap to current and future technological advancements – offered by the Ministry of Ministry of Jobs, Economic Development and Competitiveness. We are very excited by the new B.C. Food Hub Network initiative developed by the Ministry of Agriculture, which is supporting developments in processing and marketing across the province. We believe that our recommendations will complement this existing programming to ensure that farmers and processors of all scales have the resources and knowledge to access and adopt agritech solutions.

RECOMMENDATIONS IN-BRIEF

The Food Security Task Force is pleased to make the following four recommendations. They can be found in expanded form with Key Performance Indicators (KPIs) in sections 6 to 9. Each recommendation includes some suggested actions to illustrate how the recommendation might be implemented.

1. ADOPT THE UNITED NATIONS' SUSTAINABLE DEVELOPMENT GOALS (SDGs) AND SEEK TO IMPLEMENT THESE IN FUTURE AGRICULTURAL POLICIES.

Actions:

- Endorse the SDGs and collect and disseminate appropriate information to policy-makers at all levels of government so that the SDGs guide future strategy and policy development as it pertains to agriculture, agritech and related climate policies.
- Create an Expert Advisory Council mandated to:
  - Identify priority areas for investment in agricultural technologies that reflect B.C.'s strengths and abilities to address the SDGs and support high-value opportunities for rapid technology development and commercialization;
  - Discuss key performance indicators as they relate to the SDGs; and
  - Provide ongoing advice to government regarding policy development.
- Target SDG 13 (climate change) by working with the Climate Action Secretariat to develop programming that will support B.C. farmers to transition to lower carbon practices through technology and innovation.
- Target SDG 2 (Zero Hunger) and SDG 12 (Sustainable Consumption and Production) by developing novel technologies aimed at halving B.C.'s food waste along the province's entire food supply chain. Technologies of this type may contribute to the effort to reduce global hunger.

2. ESTABLISH B.C. AS A GLOBAL AGRITECH LEADER BY SUPPORTING THE INNOVATION PATHWAY INCLUDING THE DEVELOPMENT, DEMONSTRATION, AND DEPLOYMENT OF NOVEL TECHNOLOGIES.

Actions:

- Harness the creativity of British Columbians in developing new and innovative agricultural technologies through an incubation-acceleration strategy which includes an incubator for agritech start-ups.
- Ensure alignment between the incubation-acceleration strategy and the broader agriculture and agritech agenda by having the incubator lead serve on the Expert Advisory Council.
- Stimulate demonstration of the most promising agricultural technologies in B.C. through:
    - Linkages between the agritech incubation-acceleration strategy and B.C.-based accelerators;
    - Physical space and a streamlined regulatory framework to rapidly launch large scale agritech demonstration projects; and
    - Where available, provincial funds that can be used to leverage other funding (e.g., industrial, venture capital, federal) aligned with provincial agritech priority areas.
- Develop a policy framework for the deployment of commercial agricultural technologies that embraces the UN SDGs and ensure access to appropriate provincial and federal resources that maximize industrial contributions.
- Facilitate provincial, federal and international linkages to create innovation corridors between B.C. and key jurisdictions to ensure that B.C. is central in the creation and commercialization of new agricultural products and technologies. For example, B.C. should leverage its position as the Asian gateway for agricultural commodities from across Western Canada and the United States.

3. CREATE AN AGRICULTURE AND AGRITECH INSTITUTE AS A COLLABORATIVE ENTITY ACROSS POST-SECONDARY INSTITUTIONS TO DRIVE EXCELLENCE IN PRIORITY AREAS AND DEEPEN THE KNOWLEDGE BASE AND TALENT POOL FOR THE AGRICULTURE INNOVATION AGENDA.

Actions:

- Create an agriculture/agritech institute that draws on expertise from B.C. post secondary institutions (universities and colleges) and prioritizes training, cutting-edge research and development, acts as a policy think tank, and links to national and international academic networks, all in support of the provincial agriculture agenda.
- Mandate and resource the Institute to:
  - Perform world-class research and development in areas identified as being critically important to the province;
  - Provide advice to government on agriculture and agritech policies, particularly those related to the UN SDGs;
  - Link with the provincial agritech incubator-accelerator strategy to support new enterprises while also ensuring start-ups are aware of international developments in the agritech arena;
  - Act as a gateway for aggregating work-integrated learning opportunities across post-secondary institutions for undergraduate and graduate students;
  - Enhance research collaborations to build upon multiple funding streams through federal, local and industry partnerships; and
  - Develop targeted programs focused on creating the skills and talent needed to support the future of agriculture and agritech.

4.ENSURE THERE IS A PLACE TO GROW FOOD AND SUPPORT EMERGING AGRITECH INDUSTRIES BY EXAMINING LAND USE POLICIES AND OTHER REGULATORY CONSIDERATIONS.

Actions:

- Allocate up to a maximum of 0.25% of the Province's Agricultural Land Reserve (ALR) for a broader category of use essentially categorized as agricultural-industrial. Factors in siting this land include lower soil classification (class 4-7 only), proximity to existing transport corridors and services, and potential for clustering agri-industrial uses near other non-agricultural zones.
- Review allocations and selection factors for allocated zones every three years to ensure appropriate land use and space designations and to assess if the new agricultural-industrial designation has achieved the intended outcomes of increasing investment and developing the agriculture and agritech industries.
- Establish a Commissioner for Agri-Industrial Lands mandated to:
  - Establish and oversee the new zones in consultation with potential land holders, municipal governments and the Province, including the intended industrial lands inventory;
  - Spur rapid establishment of agritech and agri-innovation enterprises, to attract companies that align with agri-industrial vision to these new zones of opportunity, and to ensure the process to relocate or establish in a new zone is seamless;
  - Create a consultation process with the Agricultural Land Commission (ALC) in areas of mutual interest.
  - Encourage maximum uptake and productivity on the newly classified land by considering regulatory or policy instruments that can be used to catalyze industry growth.

AGRITECH SUPPORTS AND DIVERSIFIES OUR AGRICULTURE SECTOR

As part of her work as a crop and innovation consultant, Priya is excited to meet a haskap berry grower named Ted from Northeastern B.C. Ted has requested advice from Priya about how he might be able to diversify his operations to capitalize on a business opportunity. He shares with Priya that while at a conference in Vancouver, hosted by the Agritech institute, he was approached by a company that is interested in accessing his locally grown berries to set up a cold-pressed juice processing operation to take advantage of the nutritional benefits of haskap, but that he explained to the company that he wouldn't be able to produce enough of the crop to sustain the needs of his current customers and support this operation. Excited, Priya tells him that with innovative growing technologies that could significantly increase the amount of product he could grow, there may be ways to support or expand his primary product base and meet the demands of the processing facility.

Priya shares information about haskap berries that she has compiled in her lab in the lower mainland, showing how different controlled growing techniques can produce the same nutritional profile, grade, and colour of product as traditionally grown haskap, only in a shorter timeframe, with certain technologies like lighting and climate control. She recommends that Ted begin a small indoor growing trial and gives him the information of a company that she works in partnership with, that is situated in Northern B.C. and provides indoor growing equipment and technology setup for growing a variety of crops in the northern environment. She will return to see him when the infrastructure has been set up to discuss a plan for how to track and monitor the trial. If the results are positive, Priya will then continue to work with Ted to transition the operation indoors and scale up size and capacity.

PRINCIPLES AND STRATEGIC APPROACH

We were focused on providing recommendations that would contribute to food security, taking the United Nations Food and Agriculture Organization's definition as our guiding principle. The FAO defines food security as existing when "all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (World Food Summit, 1996).

This definition considers the importance of food security to achieving economic, nutritional and societal well-being. Accordingly, we consistently applied the principles of "People, Planet and Profit" to our work as we developed our recommendations, assessing each to ensure it would benefit people (in B.C. and globally), protect the planet and help B.C. farmers and the provincial economy remain competitive. These principles are designed to ensure that each of our recommendations will support socially just and environmentally sustainable economic growth in British Columbia. Core elements and desired goals/outcomes considered within each of these areas are outlined in this section.

PEOPLE

- British Columbians in all parts of the province, including those in rural and remote areas, have access to a local, healthy, fresh and consistent food supply, including those in rural and remote areas – and to good job opportunities resulting from the growth of the agriculture and agritech industries;
- Underrepresented groups, such as women and Indigenous people, have access to agritech training and other opportunities within the sector; and
- Innovative solutions are created to promote social good, reduce food waste and address other social and environmental problems.

PLANET

- The farmers of today and the farmers of the future are leaders in sustainable agriculture;
- Technologies are developed to lower sector GHG emissions;
- The carbon footprint of the agriculture and food sector is reduced by ensuring sufficient local food production and decreasing reliance on foods imported from significant distances; and
- Opportunities are identified to diversify protein sources, including through innovative plant-based products.

PROFIT

- Opportunities are facilitated for agriculture, food and agritech to become significant contributors to the provincial economy;
- Productivity and efficiencies are found that will enhance the competitiveness of the food and agriculture industry;
- Pathways are created to increase margins and profitability for farmers and ranchers;
- B.C.'s brand of safe, sustainable and traceable food supports a price premium in the global market while locally produced foods of all types remain available and accessible to local consumers; and
- Value is added in strategic areas along the supply chain to create value from food or by-products that would otherwise be wasted.

Our recommendations are designed to align with the Government of British Columbia's mandate to foster quality economic growth, which is growth that generates steady increases in real wages, healthy increases in per capita real government revenue without raising tax rates and benefits the entire province. They are also designed to align with the CleanBC plan, and where possible to enable reduced sector-wide GHG emissions even as agricultural production expands to meet growing domestic consumption and export sales.

OUR RECOMMENDATIONS ALIGN WITH THE PRINCIPLES OF QUALITY ECONOMIC GROWTH IN TERMS OF:

CleanBC

Reducing GHG emissions from B.C.'s agriculture industry and reducing the carbon footprint of the food we eat.

COMPETITIVE BUSINESS CLIMATE

Opportunities for current and future farmers, food producers and innovators in agriculture to grow their business and contribute to growing B.C.'s economy.

RECONCILIATION WITH INDIGENOUS PEOPLE

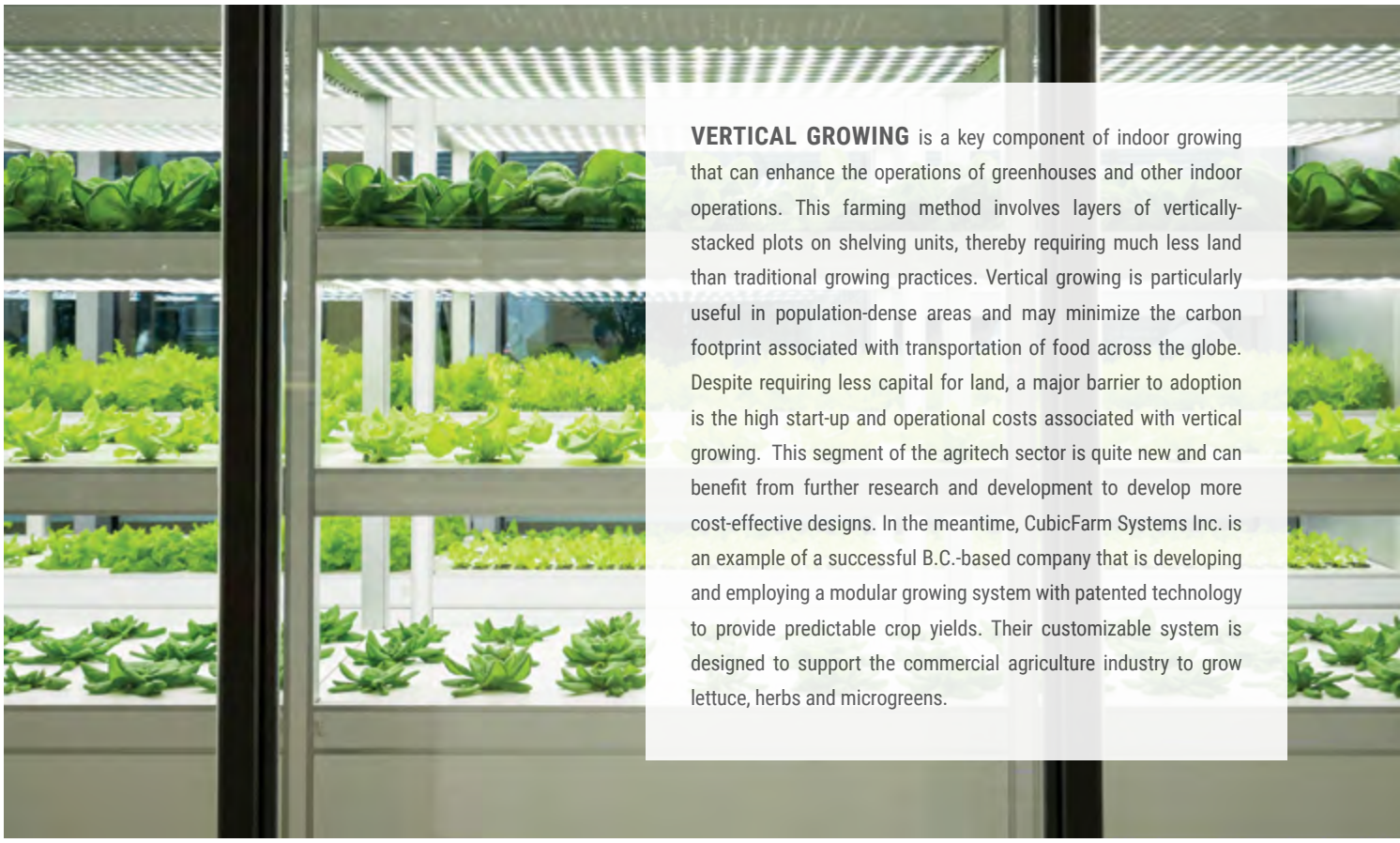
Incorporating traditional knowledge in agriculture, fisheries and food production; increasing the availability of fresh, locally-grown foods for remote and rural Indigenous communities.

TECHNOLOGY AND INNOVATION

Concentrating on agriculture as one of B.C.'s innovation clusters; developing an agritech sector that can solve B.C. agricultural and food security problems while creating knowledge and innovations that can be sold to other food-producing regions of the world.

INDOOR GROWING allows for the production of crops in a highly-controlled, closed environment. This approach to food production has the potential to transform food systems by providing a steady, year-round supply of crops, which is a not possible for traditional outdoor agriculture in most northern climates. While indoor growing will not displace outdoor growing, it can support a more sustainable food supply and be established physically closer to consumers. Fresh food can lose nutritional components during transportation, while local indoor grown produce can be picked closer to ripening, maximizing nutrient density and minimizing carbon footprints. Because food grown in hydroponic and aeroponic systems applied in indoor production have lower nutrient uptake due to lack of soil, operators must strategically apply nutrients and fertilizer solutions to yield the same nutrient-dense foods as classic soil-based agriculture.

SENSOR TECHNOLOGY has played a vital role in enhancing existing agricultural practices and will continue to do so as new developments are introduced to the field. Advancements in the monitoring and detection of changes in air quality, moisture level, and soil pH have been made over the past decade, resulting in increased yields of high-quality products. As this technology continues to advance, sensors will become more accessible and affordable for farmers, producers and consumers. B.C. company, Skaha Remote Sensing, is the first to innovate microwave sensors which provide remote monitoring of soil moisture. Their technology compiles data to generate a map of the field crop's moisture, providing insights into potential drainage issues and solutions. The company aims to expand their technology globally to maximize production and minimize the use of water.



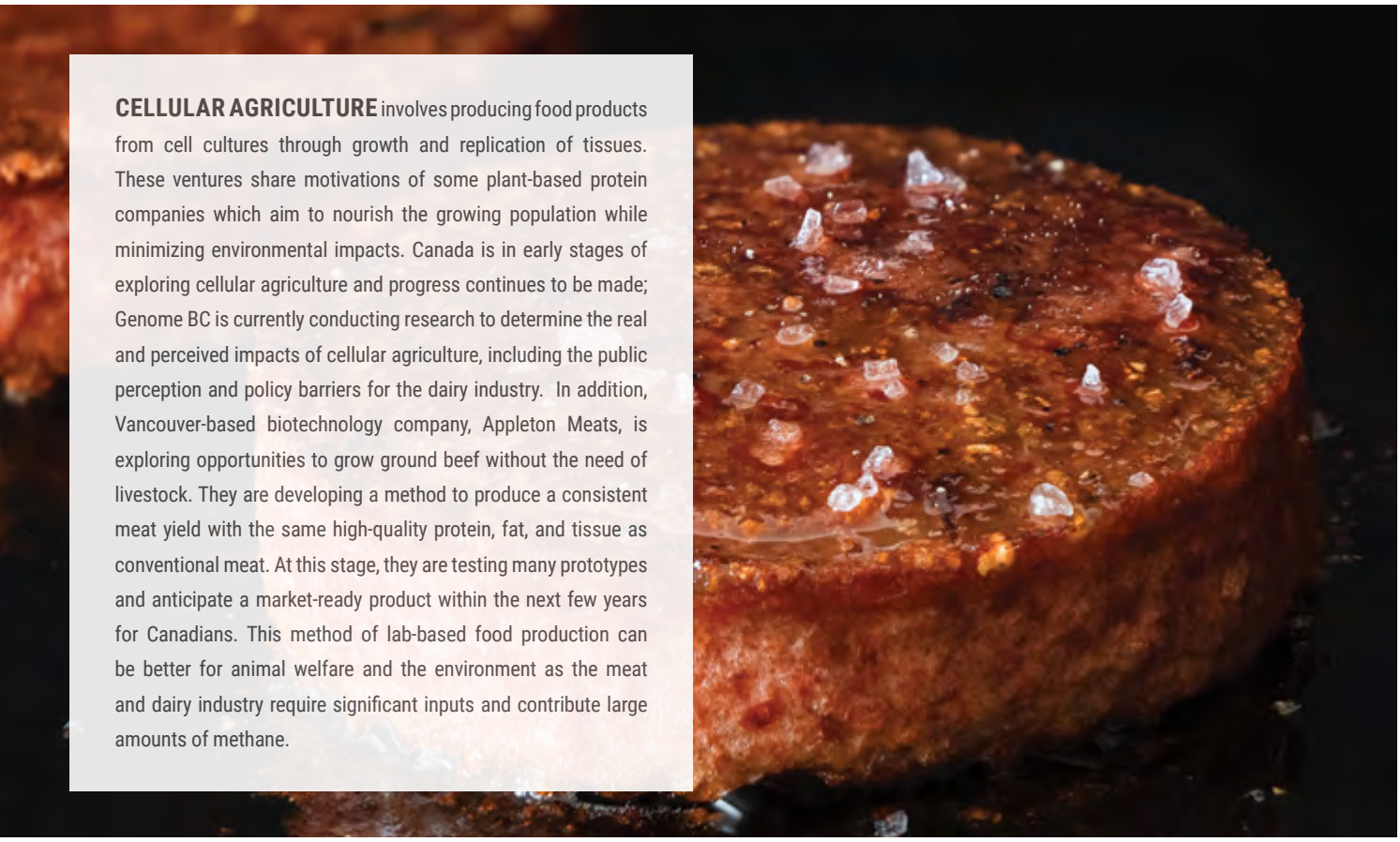
VERTICAL GROWING is a key component of indoor growing that can enhance the operations of greenhouses and other indoor operations. This farming method involves layers of vertically-stacked plots on shelving units, thereby requiring much less land than traditional growing practices. Vertical growing is particularly useful in population-dense areas and may minimize the carbon footprint associated with transportation of food across the globe. Despite requiring less capital for land, a major barrier to adoption is the high start-up and operational costs associated with vertical growing. This segment of the agritech sector is quite new and can benefit from further research and development to develop more cost-effective designs. In the meantime, CubicFarm Systems Inc. is an example of a successful B.C.-based company that is developing and employing a modular growing system with patented technology to provide predictable crop yields. Their customizable system is designed to support the commercial agriculture industry to grow lettuce, herbs and microgreens.

ROBOTICS will play an integral role in the future of farming. Automated agriculture can allow farms to operate with fewer staff, providing a solution to the labour shortages that the industry currently faces. While there are many innovations underway, there are a few B.C.-based companies specializing in robotics, from an autonomous robot that monitors crop and greenhouse operations to detect presence of early stage diseases and pests to a robotic system for greenhouse nurseries that can substitute or assist human operators with heavy manual tasks. Robotic technology has been proven to enhance farm operations by serving as reliable tools to increase efficiency, allowing farm operators to tend to other tasks requiring direct human involvement.

AGRICULTURAL GENOMICS involves the exploration of genetic information of organisms (e.g., plants and animals) that can be used to breed advantageous traits, such as tolerance to disease and increased nutritional value. Most of the current research and support is provided by Genome Canada and in the province, its subsidiary, Genome BC. As an example, 70% of cheese in North America is made with vegetable rennet as a curdling agent. Vegetable rennet is produced using genetically modified bacteria. Commercial cheese production at current levels would not be possible using traditional techniques. Vegetable rennet also produces cheese suitable for vegetarians and those following kosher diets.

Innovations in food **PROCESSING TECHNOLOGIES** have been explored for a range of commodities including plant-based proteins and frozen foods. Like agricultural robotics, food processing technologies and techniques can be employed to mitigate labour shortages by mechanizing repetitive tasks. New technologies have enhanced processes such as extraction, modification, and thermal processing to introduce novel products to market. Many plant-based protein companies established their roots in B.C and have since grown to supply products around the globe. Among these companies are Vega, Daiya Foods, Tempea Natural Foods, and Gardein, which are using new technologies and processes to transform plant-based proteins, such as nuts and legumes, to offer alternatives to traditional meats and dairy products. Developments in food processing technology have allowed food processors to transform primary food products into highly-nutritious food options, adding more choices to the market and variety to human diet. Building processing capacity for B.C.'s farm products—such as fruits, vegetables, dairy, and meats—within the province means more of the added value remains and circulates within B.C., generating economic benefit for the agrifood and other sectors.

WASTE REDUCTION TECHNOLOGY and integrated agriculture can foster environmental and economic sustainability for farm operations by diverting wastes and resources through alternate streams within their own operations. Manure from poultry and livestock operations is often applied to crops in an effort to promote organic soil, however excess nutrient run-off can contaminate nearby water sources (e.g., streams), creating threats to marine ecosystems and water supplies. In B.C., this issue is being tackled by Boost Environmental Systems, which is pioneering a microwave heat system to reduce manure to easily-digestible volumes and components.



CELLULAR AGRICULTURE involves producing food products from cell cultures through growth and replication of tissues. These ventures share motivations of some plant-based protein companies which aim to nourish the growing population while minimizing environmental impacts. Canada is in early stages of exploring cellular agriculture and progress continues to be made; Genome BC is currently conducting research to determine the real and perceived impacts of cellular agriculture, including the public perception and policy barriers for the dairy industry. In addition, Vancouver-based biotechnology company, Appleton Meats, is exploring opportunities to grow ground beef without the need of livestock. They are developing a method to produce a consistent meat yield with the same high-quality protein, fat, and tissue as conventional meat. At this stage, they are testing many prototypes and anticipate a market-ready product within the next few years for Canadians. This method of lab-based food production can be better for animal welfare and the environment as the meat and dairy industry require significant inputs and contribute large amounts of methane.

Pests are unavoidable nuisances to agricultural operations. However, novel **PEST MANAGEMENT** approaches and improved solutions are helping to mitigate damages cause by insects, rodents, birds, etc. Vancouver-based company, Semios, has turned to new technology in its approach to pest control. Their network-connected pest traps are equipped with cameras to capture and send photos of pests directly to farmers. If a pest is deemed a threat, growers can apply a pheromone product to a targeted area using a remote-controlled dispenser, pre-installed in the orchard. The natural product developed by Semios disrupts a specific pest's mating patterns, preventing it from reproducing and thus reducing its ability to damage crops. Another B.C.-based leader in agritech is Terramera. The company recently launched Rango, a plant-based pest control product that can deter a broad range of pests and diseases. Semios and Terramera are great examples of how B.C. can invent solutions to agricultural pests and can contribute to the province's reputation for high-quality and safe food products.

WHY DO WE NEED A STRATEGY?

Our food systems are entering a period of tremendous change. With 40 per cent of the Earth's land surface already dedicated to the production of food and significant population growth expected, the global agricultural sector no longer has the option of continuing business as usual. Farmers are leading the movement towards sustainable food production as they embrace new technologies and seek innovative ways to feed the growing global population. As a result, there has been a shift towards using land efficiently, growing more food in a smaller space and using fewer inputs. Farmers are rediscovering old crops, developing entirely new crop categories and exploring increasingly efficient ways of doing business.

Necessity is driving many of these changes. Climate change and biodiversity loss pose significant challenges to global food systems. At home and around the world, the agricultural sector is grappling with serious labour shortages, which are worsening as the labour pools continues to age. Deepening globalization has opened new markets, but domestic producers must compete with established agricultural powerhouses and emerging leaders in the world market. Meanwhile, consumer tastes are changing. While emerging technologies can help address these challenges, they will also profoundly change the way we produce and procure food.

Agriculture is one of the oldest industries on the planet. In a world where technology has completely transformed the way that we live together and connect with one another, in some ways, agriculture is one of the last sectors to be disrupted. The global population is growing rapidly, and B.C. alone is expected to welcome another million people by 2050. In order to keep up with population demands, global agricultural production will have to increase by an estimated 38 per cent by 2030 and 60 per cent by 2050 (FAO 2012).

In British Columbia, existing food production would not be able to meet the dietary needs of forecast population growth while also meeting the greenhouse gas reduction goals of CleanBC. While the carbon footprint of B.C.'s agricultural sector is relatively small, the agriculture industry globally produces significant emissions along the supply chain. Continuing to grow and transport food as the world does today to feed the growing global population will not be environmentally sustainable or efficient. To compound these problems, climate change is having profound impacts on some food growing regions, making it increasingly important to protect and sustain local agricultural production to support long-term food security. Agritech that can increase food production while reducing GHG emissions will be transformational for B.C., and for other parts of the world.

Consider British Columbia's reliance on imports of fruit and vegetables from jurisdictions like California that are experiencing their own climate crisis, including long-term drought. B.C. imports an estimated $7.3 billion worth of food products from the rest of Canada and $8.8 billion of food products from the rest of the world, including over $2 billion of fruits and vegetables from California on an annual basis (BC Stats, 2019). Global shifts resulting from climate change and policies in other jurisdictions could have a major impact on the availability of imports in the future of our food system. Technology can enhance our domestic food security and provide a marketable asset through which B.C. innovators can contribute to the food security needs that will arise in other jurisdictions.

From an economic perspective, B.C. needs more focused actions to fully realize the opportunity that agriculture and food present for our economy. The agriculture sector, including seafood and food and beverage processing, is a relatively small portion of B.C.'s economy, currently contributing approximately 2.1 per cent to provincial GDP (B.C. Ministry of Agriculture, 2018). Developments in agritech can unlock further potential. Agritech presents opportunities to increase profits for those already operating in the sector while also creating new opportunities for new entrants. Agritech will offer opportunities for municipal and Indigenous governments looking to diversify their local economies, provide new employment opportunities, and increase year-round access to nutritious, affordable, locally-grown foods including in rural and remote communities. This will ultimately bolster the provincial economy, creating revenue that can be reinvested into services that improve the standard of living for British Columbians.

By taking steps to develop and implement an agritech strategy now, British Columbia will be positioned to become a global agricultural leader. Our province has the opportunity to be the place that develops technologies to suit the needs of our own industry and agriculture industries around the and to unlock the potential from our agriculture sector, creating a renewed economic opportunity that can employ highly skilled workers throughout the province in food production, processing and agritech.

B.C. SHOULD AND CAN BE A LEADER.

B.C. can become a major contender in the rapidly transforming agricultural landscape. The global investment space for agritech is growing quickly. According to AgFunder, in 2018, global investments in food and agritech reached $17 billion USD – a 43 per cent increase from 2017. In addition, the opportunities for increased revenues and job creation are evident – in B.C., revenues and employment are expected to grow by 8 per cent and 7.5 per cent, respectively, by 2025 (MNP, 2019).

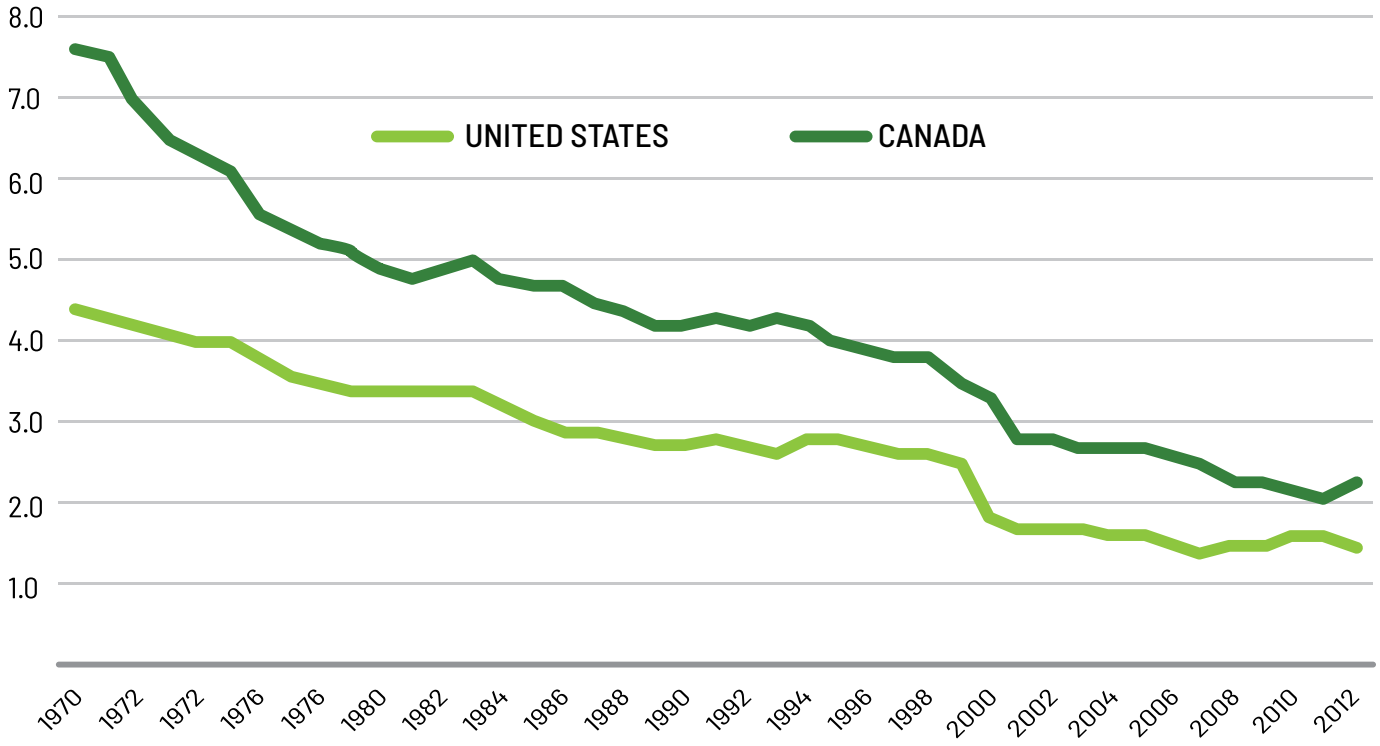
THE OPPORTUNITY - WHAT WILL A STRATEGY DO?

We believe that implementing an agritech vision will realize significant benefits for British Columbia and the agricultural industryBased on extensive research and consultations, we believe there are opportunities for B.C. to significantly grow its existing agricultural sector, unlock new revenues, create skilled employment opportunities and establish an entirely new economic sector that can lead the world in agritech development.

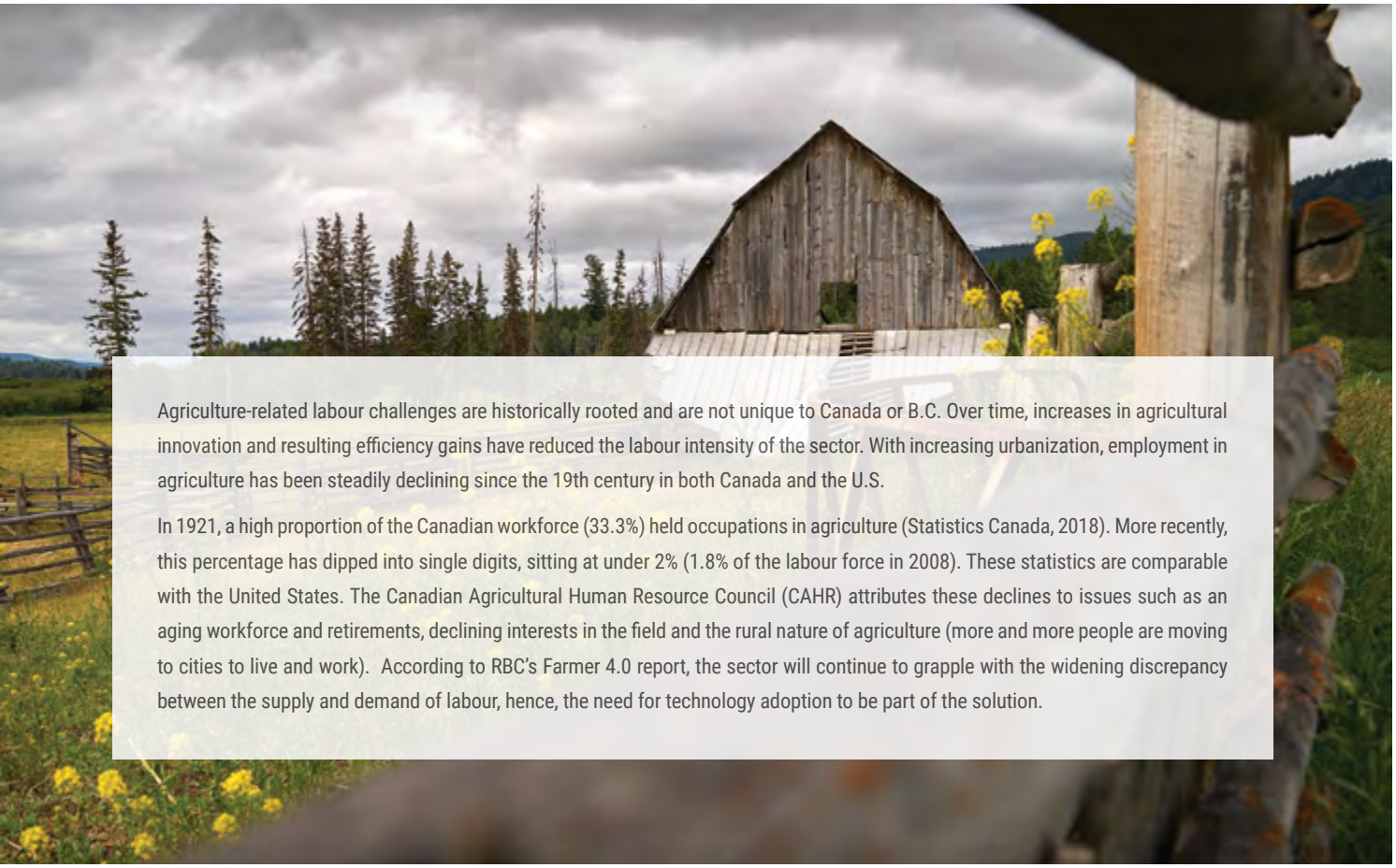
Our recommendations go hand in hand with setting an ambitious target for growth, forecasting that agriculture's share of B.C.'s economic base can grow from 10.3 per cent to 15 per cent by 2035. We predict this would be the result of increasing production, adding value to food products, and enabling seamless efficiency by supporting logistics, supply chain development and market access for the fast-growing, tech-enabled food and agriculture sector. In addition, agritech development will diversify the technology sector and provide a net positive return to the province. A growing agritech sector will support good jobs for university graduates and existing farmworkers who want to diversify their skills and economic opportunities. We believe that B.C. can grow and develop a minimum of ten world recognized agritech companies that are anchored in B.C. and that, by the year 2035, will have developed into B.C. based multinational operations that employ hundreds of people.

Increasing food production in British Columbia requires a whole systems approach that considers what markets our food will serve and what returns it will generate. We must not produce more solely for the sake of increasing production and with the hope to be able to sell it to market. Food waste already represents a major loss within the food system – over $31 billion of food is wasted in Canada per year, which represents approximately 40 per cent of food produced. The agricultural sector requires a targeted growth strategy that will allow us to produce sufficient food to meet our needs while also increasing exports that command a price premium in overseas markets. We have the opportunity to return more prosperity to B.C. farmers and increase the standard of living across the province by raising the value of goods and services we export.

PERCENT OF EMPLOYMENT IN AGRICULTURE



Source: U.S. Bureau of Labor Statistics, International Labor Comparisons, June 2013



Agriculture-related labour challenges are historically rooted and are not unique to Canada or B.C. Over time, increases in agricultural innovation and resulting efficiency gains have reduced the labour intensity of the sector. With increasing urbanization, employment in agriculture has been steadily declining since the 19th century in both Canada and the U.S.

In 1921, a high proportion of the Canadian workforce (33.3%) held occupations in agriculture (Statistics Canada, 2018). More recently, this percentage has dipped into single digits, sitting at under 2% (1.8% of the labour force in 2008). These statistics are comparable with the United States. The Canadian Agricultural Human Resource Council (CAHR) attributes these declines to issues such as an aging workforce and retirements, declining interests in the field and the rural nature of agriculture (more and more people are moving to cities to live and work). According to RBC's Farmer 4.0 report, the sector will continue to grapple with the widening discrepancy between the supply and demand of labour, hence, the need for technology adoption to be part of the solution.

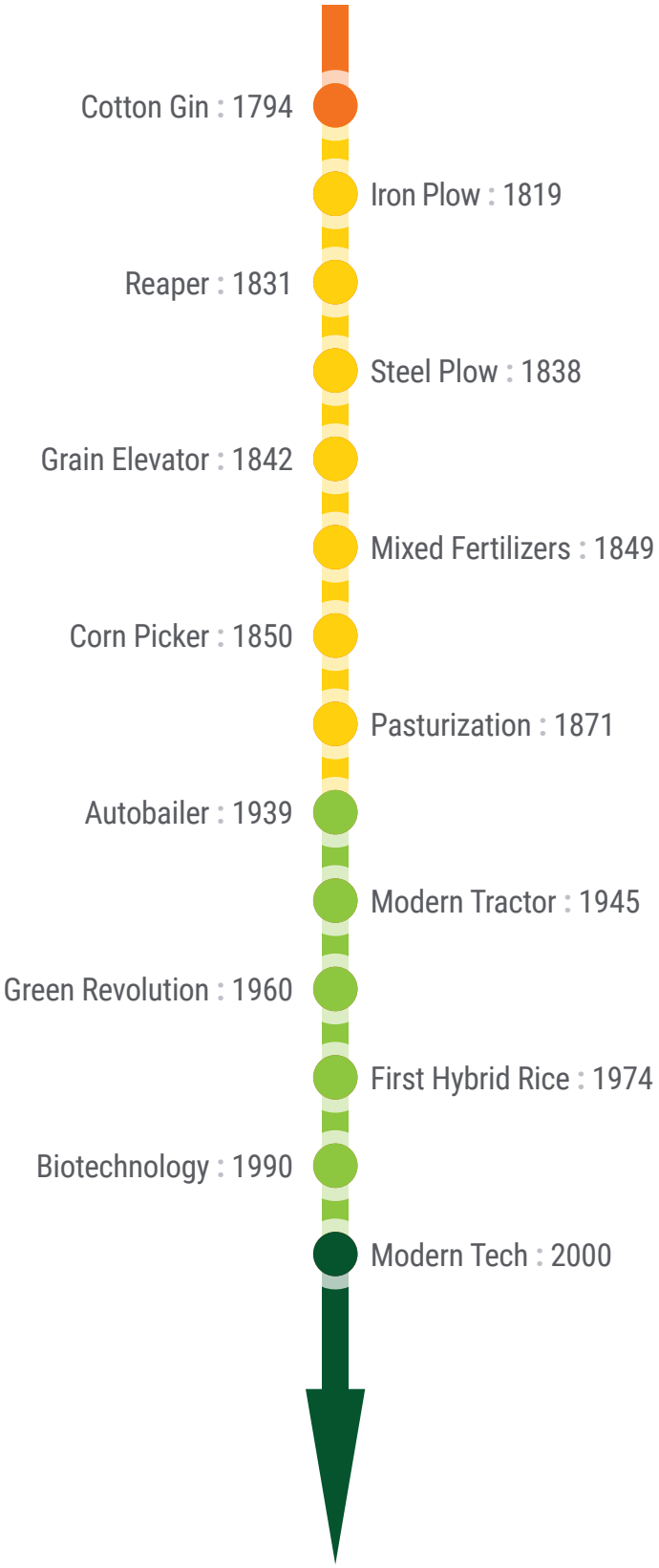
According to CAHR, the global demand for Canada's food products has been expanding while the labour force continues to shrink, resulting in a labour gap that is expected to double by 2025. Nearly three-quarters of the labour gap has been filled by foreign workers. Despite this support, current challenges are hindering sector growth; with over 16,500 jobs unfilled in Canada in 2017, the sector lost $2.9 billion in revenues. In addition to economic losses, of the 41 per cent agricultural producers who were unable to fill all positions, 56 per cent claimed to experience delays to production, 55 per cent experienced production losses, and 46 per cent experienced loss in sales.

The seasonal, highly cyclical nature of the sector, and the income levels associated with traditional labour-intensive occupations in the sector (such as piece rates for hand-harvested crops) compound the labour shortage issue. Technology can lead to the redefinition of a new sector opportunity that can support year-round income for skilled workers in agriculture, creating new pathways for seasonal or temporary workers and a new generation of farmers that can help fill the labour gap.

Throughout history, innovation and technology have been integrated into farming operations to improve the efficiency and productivity of growing food. In modern times, RBC's report highlights that advanced technologies have been adopted by 95% of farms, bringing in over $1 million. Adopting new equipment and technologies has never been unusual for farmers; most farms adopt the industrial and technological changes that apply to their businesses as quickly as practical– from the days of horse-drawn plows to today's reality of being able to monitor crop health through a smart phone. Applying agritech is part of the reason why the agriculture value per worker has been increasing, helping Canada and B.C. remain a leader in agriculture and food production.

INNOVATION IN AGRICULTURE AND THE EVOLUTION OF INNOVATIVE PRACTICES AND TOOLS DATES BACK CENTURIES.

The timeline below highlights some of the key innovations that took place over the past 300 years in the United States.



At the turn of the 20th century, fertile land started to become scare and more people began to move to urban areas, levelling off agricultural production. In response, President Theodore Roosevelt established the Country Life Commission in 1908 to investigate reasons for stalled production and to recommend structural changes that could increase agricultural efficiency and yield. The Commission largely assumed that industrialization was necessary, and met with resistance from rural communities, the country did not experience significant industrialization until the first World War.

After the Industrial Revolution, crops began to require fewer workers, better soil replenishment and improved livestock care, resulting in agricultural productivity. The period of time known as the 'Green Revolution' (1950s/60s) experienced the development of high-yielding varieties of cereal grains, expansion of irrigation infrastructure, modernization of management techniques, distribution of hybridized seeds, synthetic fertilizers, and pesticides. That revolution opened a new door to innovative practices. By 1990, the first food product produced through biotechnology was sold.

Advances in technology and farming practices have helped farmers become much more productive and grow crops efficiently in areas most suitable for agricultural production. The 20th century was the turning point that introduced the use of machinery, fertilizer and pesticide technology. As a result, food largely became an affordable and accessible commodity in developed countries.

Today, we are experiencing the next 'Green Revolution', which will supercharge the existing tools, practices and techniques farmers have available so they can continue to produce and select technology options that suits their needs. Linking so many technologies means that waste will be limited, productivity will be maximized, and the environment will be protected as much as possible.

4. SECTOR CONTEXT

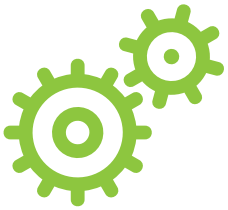
B.C. AGRICULTURE, FOOD AND AGRITECH SECTOR – A STRONG SECTOR WITH MAJOR POTENTIAL TO BE UNLOCKED

Agriculture is a major sector of the economy, providing employment for over 63,000 people in B.C. (Statistics Canada, 2018). B.C. produces high-quality foods for both domestic consumption and global export, and commodities like berries, salmon, trout and wheat are gaining market share in countries like China, Japan, South Korea, Taiwan, Ukraine and Vietnam. However, even as the province is cultivating an international reputation for safe and sustainable food and agricultural products, the full potential of the agricultural sector remains unrealized. Through bold thinking and a strategic roadmap, we can increase the value of agricultural exports, create new economic growth opportunities within the sector, and make British Columbia into a global agricultural leader.

The Task Force has identified three key opportunities:

VALUE-ADDED PRODUCTION

INNOVATION & TECHNOLOGY DEVELOPMENT



STRATEGIC PRODUCTION INCREASES

VALUE-ADDED PRODUCTION

B.C. is the most diverse agricultural landscape in Canada, with over 200 primary agriculture products and 100 fish, shellfish and marine plant species. Although we produce a wide range of agricultural products, we do not produce high volume commodity crops at the same scale as other provinces. For example, Saskatchewan and Alberta together produce two-thirds (64 per cent) of Canada's total grain and oilseed revenues (B.C.'s share is <1 per cent), while Quebec and Ontario together produce 78 per cent of Canada's total value of non-greenhouse vegetable revenues (B.C.'s share is <10 per cent).

B.C. produces high-value crops from intensive agriculture, quality fruit and seafood, and a range of cereal based products and canola from the Peace Region. B.C. contributes to over one-third (35 per cent) of Canada's total revenues for fruit. In addition, B.C. is a leading jurisdiction in food processing, with almost 3,000 food processing companies producing value-added meat, seafood, dairy, fruit and vegetable products, beverages, sauces, and bakery items. These companies employ over 30,000 British Columbians and produce over $10 billion in sales per year .

Food processing has the potential to add significant value to our crops: processing increases the shelf life and captures the nutritional value of perishable food. Food processing can include developing a high value niche product, such as health foods, granolas or cereal bars. Food processing could also include monetizing the waste stream from food that would otherwise not make it to market, such as drying or juicing off grade fruit.

Extracting additional revenue from B.C. grown commodities through innovative processing techniques and new technologies can be a major economic stream in the years ahead. New technologies and practices can uncover new products the serve the demands of customers around the globe. B.C. has strengths it can leverage in having a recognizable brand for health foods and products, and with an increasing demand for vegan and specialty goods, B.C. can meet this niche. B.C. can also look at opportunities to add value to commodities that need to enter the province from elsewhere in Canada on their way to export position at our ports.

British Columbia's location on the Pacific West Coast means we have access to overseas markets where B.C. products may be able to command a price premium as B.C.'s brand for safe, sustainably produced and high-quality food products is further developed. B.C. occupies a strategic position within the wider Canadian agricultural economy. Major grain terminals at the Port of Prince Rupert and the Port of Vancouver facilitate the flow of wheat and other grains grown in the prairie provinces. As new methods of cold chain storage are developed, more agricultural products are being exported via B.C. than ever before. We can capitalize on the competitive advantage that our location and proximity to overseas markets already give us by developing innovative value-added processes.

Wheat, oats and other grains grown in the prairie provinces can be processed into high-value goods. As more consumers shift to plant-based proteins for all or a portion of their diet, an opportunity is being created for new product development. Capitalizing on plant-based production through value-added processing in British Columbia will meet the needs of domestic consumers while also stoking global demand for BC brand.

The Ministry of Agriculture is developing a B.C. Food Hub Network, which aims to foster growth and innovation in the agricultural sector by improving access to processing facilities, equipment, technology, technical services and business supports. The B.C. Food Hub Network will facilitate food processing for producers across the province and crate access to supply chains and markets, which will increase the revenue generating potential of the agriculture and food processing sectors. In concert with other programs of the Ministry of Agriculture, the B.C. Food Hub Network will support the development of food and agricultural products that can be patented and attributed to B.C.

FARM TYPE	BC REVENUES	BC'S SHARE OF CANADIAN TOTAL REVENUES
Grain and oilseeds	$ 105,585,855	0.4 %
Livestock and animal products	$ 2,008,662,632	16.1 %
Fruits, vegetables and others	$ 1,836,791,433	6.6 %

Source: Statistics Canada, 2018: https://www150.statcan.gc.ca/t1/tbl1/en/cv.action?pid=3210013601

B.C.'S THRIVING WINE INDUSTRY

Each year, B.C.'s wine industry contributes approximately $2.8 million to the provincial economy and exports $9 million worth of product to international markets ($7 million to China). B.C. is gaining an international reputation for wine, with over 900 wineries who are earning 'best in' category awards at international competitions, making the province well on its way to achieving industry's vision to be recognized as one of the world's premier wine regions (BC Wine Institute). Canada manufactures more icewine than all other countries combined, and B.C. is a top producer of Canadian icewine – a luxury to countries like China.

B.C.'s diverse topography and unique climatic conditions allow for over 80 different grape varieties to be grown across the province – from Vancouver Island, which provides a long growing season, to the Okanagan, whose stable climate boasts over 80% of the province's vineyard acreage. The Summerland Research and Development Centre is supporting innovative research relating to the biochemistry and sustainable production of grapes and wine. Innovation in the sector is being further developed and recognized through federal commitments such as recent funding ($1.75 million over five years) for a BC Beverage Technology Access Centre, at Okanagan College in Penticton, that will provide research, testing, proof-of-concept and marketing assistance to the wine, beer, cider and spirits industries.

Modern, global consumer demand for food is shifting to local, minimally processed and "whole" foods where B.C. will have a strengthen in developing consumer trusted foods predicated on our brand for wholesome, sustainable and quality. The emerging plant-based protein opportunity is prime for the taking in B.C.

Plant-based protein can be a contributor to reducing climate change impacts while meeting the dietary needs of a growing world population, using less water, land and energy than animal-based protein, while also meeting emerging consumer preference and lifestyle choices and the religious traditions of some portions of our diverse, multicultural population. Plant-based protein products are increasingly seen as the next big opportunity in food, providing a new revenue stream that can complement those of other parts of the agriculture industry. We are seeing impacts to consumer demand in major areas of the food sector—in dairy and health products, fast-food chains and increasing variety of products available in the local grocery store protein department.

There are several characteristics that make B.C. well-positioned to focus on plant-protein products. First, we have a strong food processing sector with a reputation for high-quality products that cater to modern consumer trends. Second, we have access to key markets through our rail and port transport corridors. And finally, we have a larger and diverse population and the highest demand for premium food products including within the plant protein and health product categories than the prairies. This give us the advantage of being able to "test market" before looking to export goods.

With this opportunity in mind, we met with the Protein Industries Canada Supercluster (PIC) to learn more about how to integrate B.C. within the Pan-Canadian strategy. PIC is one of the selected Canadian priorities for a national innovation strategy and received $153 million for four years, starting in April 2019, from the federal government to support development in production and value-added processing technologies in plant-based protein across Canada. PIC is using a Pan-Prairie Academia—Western Canada working group to increase collaboration and strengthen the Canadian brand strategy for the food sector by developing metrics, attribute, reliable information sources, and emphasis on nutritional value. The PIC funding program has had two successful calls for submission and is looking to increase program exposure in B.C. PIC is using a Pan-Prairie Academia – Western Canada working group to increase collaboration and strengthen the Canadian brand strategy for the food sector.

INNOVATION AND TECHNOLOGY DEVELOPMENT

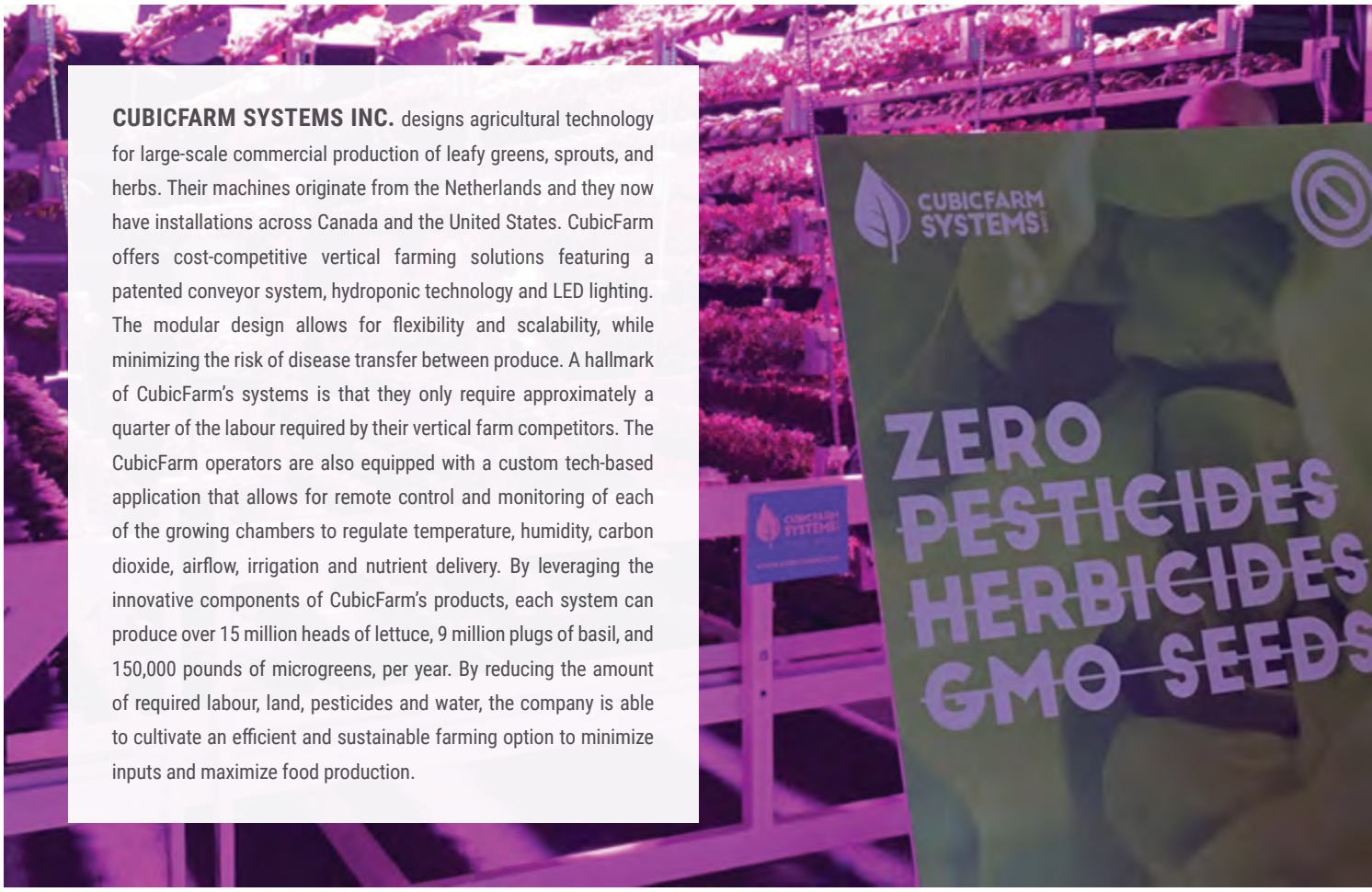
B.C. is home to over 150 companies that are developing and producing world-class agritech solutions for the agriculture and aquaculture sectors. B.C. already has a thriving technology sector, but there are opportunities specific to agritech that will allow the sector to generate significant economic growth. By 2025, revenue from B.C. agritech producers are projected to grow by 8 per cent, totalling up to $205 million, and agritech employment is projected to grow by 7.5 per cent, totalling up to 1,230 jobs (MNP, 2019). In addition, by 2025, it is anticipated that total federal, provincial, and municipal tax revenues will be $20.8 to $31.4 million and that agritech export revenues will be $56.4 to $93.9 million (MNP, 2019).

These projections highlight that there is anticipated growth of the sector in the short term. This also considers the jobs and revenues that are strictly attributed to the technology component of the agritech opportunity and does not consider the induced and related jobs/ revenue impacts on the agriculture and food sectors.

In support of encouraging innovation within the agriculture, food and agritech sectors, the Province of B.C. (Ministry of Agriculture) provides significant cost-shared funding with the Government of Canada (Agriculture and Agrifood Canada) through the Canadian Agriculture Partnership (CAP). From 2018 to 2023, CAP provides over $25 million of funding for B.C. innovation programming, such as the:

- Canada/BC Agri-Innovation Program (CBCAIP): Under the CBCAIP, industry, academia, value-added food processors, retailers and others can access funding for late-stage research, pilot and demonstration projects, and for the commercialization and adoption of innovative products, technologies and practices for the agriculture and food sector.
- Agritech Innovation Challenge: The Ministry of Agriculture, in partnership with Innovate BC, developed the Agritech Innovation Challenge to identify innovation solutions to problems faced by B.C.'s agriculture and food industry.
- Agriculture Venture Acceleration Program (AVAP): AVAP, delivered by Foresight Accelerator, provides mentorship, coaching and market validating training support to early stage entrepreneurs across the province.

SPROUT KITCHEN REGIONAL FOOD HUB AND BUSINESS INCUBATOR is being developed in Quesnel, in collaboration with the Ministry of Agriculture, and will serve farmers and processors in the North Cariboo region. Sprout Kitchen will be a shared use processing facility with membership-based access to specialized processing equipment, such as a pressure steamer, tilting kettle, dehydrator, juicer, honey extractor and more. Access to shared processing space and equipment, combined with business, product development and food safety services, creates opportunity for food entrepreneurs to innovate and grow without having to invest in their own infrastructure. Sprout Kitchen aims to connect farmers and processors, generate sustainable growth and foster innovative businesses in the agricultural and food economy of the North Cariboo. The BC Food Hub Network will create opportunities for collaboration at regional food hubs, like Sprout Kitchen, and between regions through the network of food hubs and with the UBC Food and Beverage Innovation Centre.



CUBICFARM SYSTEMS INC. designs agricultural technology for large-scale commercial production of leafy greens, sprouts, and herbs. Their machines originate from the Netherlands and they now have installations across Canada and the United States. CubicFarm offers cost-competitive vertical farming solutions featuring a patented conveyor system, hydroponic technology and LED lighting. The modular design allows for flexibility and scalability, while minimizing the risk of disease transfer between produce. A hallmark of CubicFarm's systems is that they only require approximately a quarter of the labour required by their vertical farm competitors. The CubicFarm operators are also equipped with a custom tech-based application that allows for remote control and monitoring of each of the growing chambers to regulate temperature, humidity, carbon dioxide, airflow, irrigation and nutrient delivery. By leveraging the innovative components of CubicFarm's products, each system can produce over 15 million heads of lettuce, 9 million plugs of basil, and 150,000 pounds of microgreens, per year. By reducing the amount of required labour, land, pesticides and water, the company is able to cultivate an efficient and sustainable farming option to minimize inputs and maximize food production.

In the context of climate change and global population growth, technology solutions are necessary to support the amount of food that will be required to feed the world. B.C. can innovate in the areas that will be in high demand in the fastest growing populations, such as India, Africa, and Asia. Fields such as urban growing offer particular promise, offering the opportunity to grow traditional crops (not just produce) in unconventional methods that don't require a large land base, may not require soil, and can be tended without a dedicated or significant workforce. Capturing this opportunity would allow B.C. farmers and agritech companies to sell their technologies to jurisdictions around the world, supplying other countries with the tools and knowledge about how to grow food in this new way. (insert vertical growing link video here).

Development of technology has the potential to provide employment for people throughout B.C. as tech will need to developed and tested across a diversity of landscapes and crops. B.C. agritech companies that have been successful to date are providing employment for a range of technical and skilled professionals. One example is B.C.-grown, Terramera, which started as a one-person operation in 2010 and has since grown to a $200+ million company with a couple hundred employees. Terramera has an ambitious agenda to reduce synthetic chemical loads in agriculture by 80 per cent while increasing global yields by 20 per cent by [2030].

Technology exports have huge potential for B.C. agri-businesses and the economy, particularly when intellectual property (IP) remains in B.C. to generate ongoing revenue Companies with proprietary export products and services are able to remain in B.C. and create high-quality jobs and contribute to cluster development, while attracting investment and generating revenue for the provincial economy. Positioning B.C. entrepreneurs in the agriculture sector to be able to offer proprietary technology and associated deployment, upgrade and operating services to global corporations will build our province's reputation for knowledge and expertise in agritech – similar to the Netherlands. Leveraging the federal government's IP Strategy and incorporating IP / patent services to B.C.'s incubation-acceleration strategy will be key to ensuring our competitiveness and economic growth of the sector.

STRATEGIC INCREASES IN PRODUCTION

New technologies and innovations have the potential to maximize productivity and increase crop yields, potentially creating a new industry driven by next-generation growing techniques. While upfront investment is always required to deploy new technology or infrastructure, many pre-harvest technologies can enhance the economics of traditionally grown crops by increasing the amount, quality, and consistency of production. In the future, technology will enable the production of any crop, anywhere, anytime. Applied to and embraced in the B.C. context, this could see net new revenue streams from products that are not traditionally grown in B.C., or where growing is limited to certain times of the year. For example, closed containment growing systems, soil-less agriculture, and indoor crops could mean that high-value crops like blueberries could be grown throughout the year, effectively doubling a farmer's revenues. This would also support a new brand for B.C. as a consistent, year-round supplier of quality goods and enable access to new markets and customers as B.C. suppliers would find themselves now able to be able to meet the demand for the consistent quantity and quality required.

Technology can further enhance and ensure food safety and traceability and promote new environmentally conscious growing methods – all elements that can further promote a B.C. brand and build the potential for the sector to export goods year-round, becoming global customers' product of choice. Technology can also enable improved methods of storing and handling fresh goods, leading to longer shelf life and a greater window for products sales in a variety of market opportunities.

Growing more food in B.C. also means more food for British Columbians. Through new growing practices, farmers could increase their output and profits while producing high quality foods for local grocery stores, restaurants, and consumers. The new practices that could support farm-to-table or farm-to-supplier fresh supply in B.C. could take the form of container farms, vertical farms or urban space farms.

Increasing production needs to go hand in hand with considering market strategies and logistics. While technology could significantly increase production from the province, growing more food without a market could contribute to food waste and sector emissions rather than having the intended outcomes of increasing profits, creating export-ready products, and increasing the supply into the local market.

SQUARE ROOTS is a New York-based urban farming enterprise, founded in 2016.The company promotes food security by assembling indoor farm units with minimal inputs that feature an innovative data-based platform. Refurbished shipping containers serve as the foundation to Square Roots' farms which are equipped with climate-controlled technology, hydroponic systems, vertical plots, and full-spectrum LED lighting. Farmers communicate via a cloud-based platform, sharing knowledge on how to grow more with fewer resource. Each site includes ten farming containers which, in total, can occupy less than two acres of land and produce the same yields as twenty acres of traditional outdoor farmland. Each site produces approximately 50,000 pounds of produce per year, bringing a continuous supply of local and fresh foods to urban centres. In 2019, Square Roots embarked on a partnership with Gordon Food Service (GFS), a leading North American foodservice distributor, with the goal of building more indoor farms on or near urban GFS distribution centres. Given GFS operates in B.C., the Province has the potential to house a Square Roots or equivalent type farm in the future.

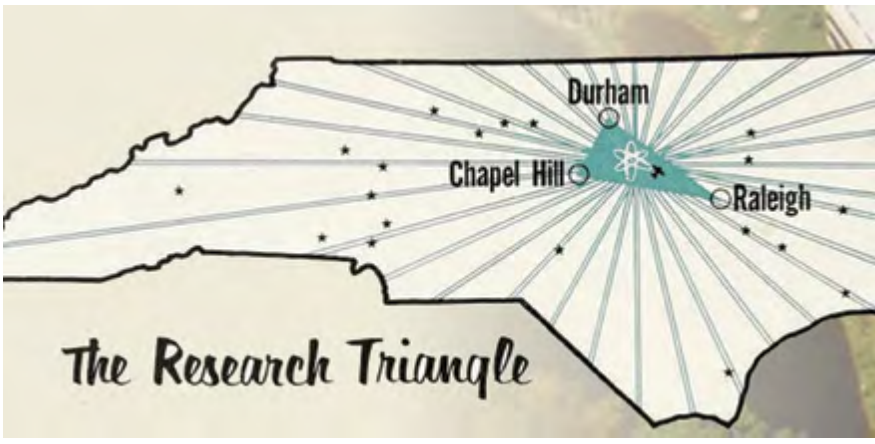
CRITICAL SUCCESS FACTORS

Our report and recommendations are intended to encourage the Province to take a leading role in capitalizing on the agritech opportunity. However, as we recognize that parts of what will be needed in order to achieve this opportunity will fall outside of the purview of the provincial government, we have identified factors that will be critical to the success of this opportunity and rely on participation from others.

A collaborative, consortium approach:

A purposeful, collaborative approach that brings together representatives of organizations operating in agriculture and agritech will be necessary to coordinate priorities, maximize resources and leverage strengths to develop a prosperous, successful, and resilient sector. Yet we heard throughout engagements that the sector is fragmented with different firms and agencies all working narrowly, while at times unintentionally competing against one another, and often missing an opportunity to create a stronger voice and larger scale opportunity than could be achieved by simply working together. While we chose not to offer a specific model for governing a collaborative, consortia approach in B.C., all the recommendations weave a common thread of finding a way to work better together for the benefit of all in the system and this principle is the critical underpinning of the opportunity. In leading agritech and agriculture jurisdictions, a model of collaboration, such as the Top Sector approach in the Netherlands, was inherent to the success.

The Task Force studied models of collaboration in various jurisdiction that create a strong competitive and dynamic agrifood an agritech sectors. These models all provide an operating framework and organizing structure that commits industry, academia and government to working together to achieve common goals that have been prioritized to meet challenges and opportunities within the sector.



THE DUTCH TOPSECTOR / TRIPLE HELIX APPROACH

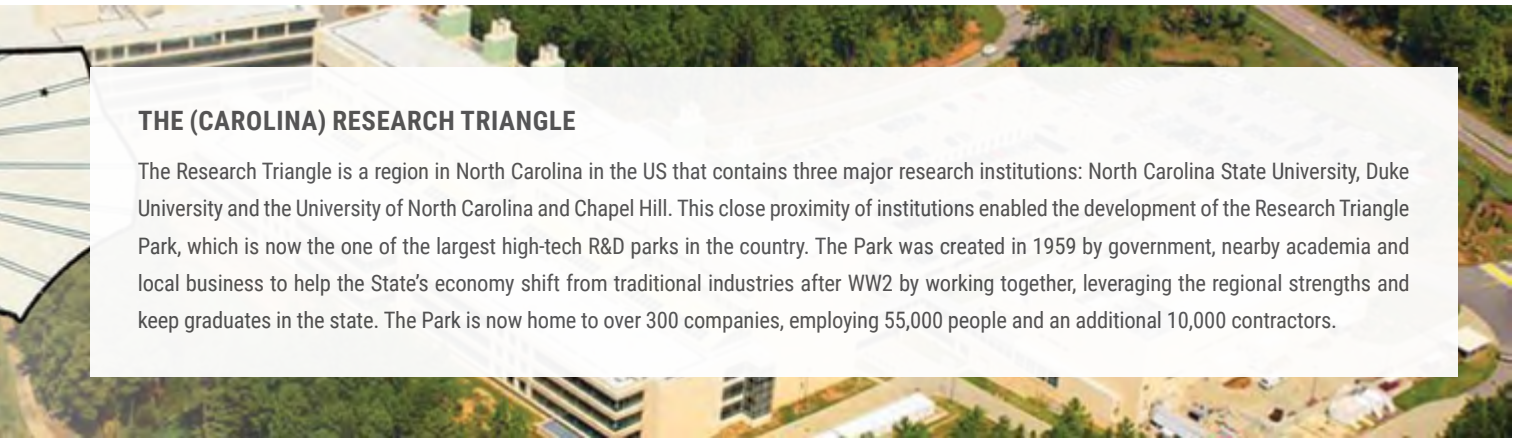
To maintain its competitive edge in the global markets, the Netherlands implemented the Topsector approach that identifies priority sectors in the economy that will not only bolster the country for strong economic growth, but also target societal issues like aging population and climate change. The Topsector approach uses a world-renowned operational framework between industry, academia and government—also known as the Triple Helix—as a form of collaboration designed to promote innovation, attract talent, and ensure solid international presence in priority sectors. Each Topsector has a Board of Chairs that consist of representation from each partner and is responsible for identifying priorities for each sector, disseminating these priorities to their associated stakeholders and making funding decisions on project proposals.

AUSTRALIA COOPERATIVE RESEARCH CENTRE MODEL

The Australian Government believes that innovation plays a critical role for Australia's future. To support innovation in the economy, government introduced the Cooperative Research Centres (CRC) program in 1990. The CRC program is designed to support Australian industries to become competitive and productive by partnering industry with the research sector to solve industry-identified challenges. Each year, the CRC program supports around 2,000 Australian researchers and over 1,000 PhD students.

ONTARIO AGRI-FOOD INNOVATION ALLIANCE

The University of Guelph and Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) have a long-standing partnership, over 125 years of working together to help support the agrifood sector and rural economic development in the province. The vision and strategic outcomes of the partnership focus on assurance in food / public safety, increased Ontario's ability to produce food, support global and domestic competitiveness, support innovation development and adoption and create opportunity for the future generations. The Innovation Alliance collaborates on offering research, laboratory, and veterinary capacity programs that create opportunity for addressing sector challenges and providing skills training for future needs of the labour force.



THE (CAROLINA) RESEARCH TRIANGLE

The Research Triangle is a region in North Carolina in the US that contains three major research institutions: North Carolina State University, Duke University and the University of North Carolina and Chapel Hill. This close proximity of institutions enabled the development of the Research Triangle Park, which is now the one of the largest high-tech R&D parks in the country. The Park was created in 1959 by government, nearby academia and local business to help the State's economy shift from traditional industries after WW2 by working together, leveraging the regional strengths and keep graduates in the state. The Park is now home to over 300 companies, employing 55,000 people and an additional 10,000 contractors.

THE AGRICULTURE AND FOOD INDUSTRY

While a collaborative model will underpin the strategy for success, the industry will need to take a leading role to drive the necessary change: developing the farmers of the future, helping to focus the resources in the system on the challenges, and championing and showcasing innovative practices within their own businesses. The necessity to foster technology and innovation within the food system exists in all shapes and formats. It can be large scale infusion of high tech, or it could be small innovations and ways of critically rethinking the business of the traditional economy to support future competitiveness and new opportunity streams. Farms of all sizes should be invited and encouraged to participate in this change process to the best of their abilities.

PARTNERSHIP WITH THE FEDERAL GOVERNMENT

Agriculture is a shared jurisdiction under the Canadian Constitution, which means that federal, provincial and territorial governments share responsibility through regulations, programs, advisory services and strategic investments. As a provincially appointed body, we crafted our recommendations to speak to the provincial government, addressing the foundational elements to creating a sound agritech ecosystem that are within provincial control and jurisdiction. We have also developed this document to inform the federal government that B.C. is positioned and ready to make a major impact in the agritech space, to the benefit of both the provincial and national economy, beginning to identify how activities in the B.C. agritech sector can also help bolster the economies of other provinces and resources that cross provincial boundaries. B.C.'s work to grow the agritech sector and unlock new value for the present and future agriculture and food sectors is closely aligned with priorities of the federal government and partnerships to advance this sector between the federal/provincial government should be pursued.

INVESTMENT

Our report provides the framework for the Province and other partners to realize the opportunity. It is inevitable that investment will be needed to achieve the opportunity, whether that comes through re-deploying resources from other areas to this priority or from new funding. Although we respect that the process of defining the amount and types of investment needed is the domain of the provincial and federal government agencies, we identify that there will need to be investment, over time, from governments, the agricultural industry into their own research, development and innovation priorities, and from private sources such as venture or other types of capital.
The actions identified in our report will create the platform for this investment.

5. OUR PROCESS AND WHAT WE HEARD

OVERVIEW

Our recommendations are informed, in part, by consultations with stakeholders in industry, government, and the academic sector in B.C. and abroad. We began with regional consultations in the Lower Mainland / Fraser Valley, Vancouver Island, Okanagan, Peace, and Cariboo regions. We also ran an online engagement process. These consultations highlighted both concerns and hunger for opportunity. Concerns included adapting to a changing climate, the challenge of finding skilled labour, a lack of knowledge and training in the agritech area, and competition from other jurisdictions. However, there was also widespread interest in the opportunities posed by agritech, including the ability to tap new markets, take advantage of trends such as interest in plant-based foods, and put technology into the field to increase productivity and competitiveness.

Based on feedback from these stakeholders, we conducted fact-finding in known regions of excellence outside of B.C. We traveled to Guelph in Ontario, Saskatoon in Saskatchewan, and to the Netherlands. We also engaged with key policy leaders in Ottawa and the UN's Food and Agriculture Organization. The following section highlights how each individual recommendation was supported by the results of our engagement strategy, and then provides detailed exploration of what we heard.

KEY STAKEHOLDER INPUT

RECOMMENDATION ONE:

Adopt, implement and apply the United Nations' Sustainable Development Goals across all agricultural policies.

Current and potential future impacts of climate change were identified as one of the most pressing threats facing the B.C. agricultural sector. During our consultations, farmers expressed concerns about the impacts of climate change. The effects are being felt across the province, and with their severity increasing, farmers communicated the urgency of addressing environmental degradation. Farmers were also worried about side effects of climate change such as drought, salt intrusion from rising ocean levels, and soil degradation.

This concern over the environment was echoed by academics and representatives from NGOs. In addition to addressing climate change, they stressed that B.C. must do more to address the Sustainable Development Goals. While visiting the Netherlands, we were deeply impressed by the meaningful adoption of the SDGs. This informed our discussions in Ottawa, where we discussed the importance to B.C. of working toward a more sustainable future. We then engaged the Food and Agriculture Organization (FAO) in Washington, DC on the mechanics of this process. Based on these consultations, we recommend that the SDGs be adopted as a guiding principle in B.C. policy development.

RECOMMENDATION TWO:

Establish B.C. as a global agritech leader by supporting the entire innovation pathway including the development, demonstration, and deployment of novel technologies.

As the B.C. agricultural industry operates within an increasingly globalized market, many producers are struggling to cope with international competition. While producers from other markets have adopted innovative production methods and targeted agritech solutions, B.C. farmers worry that they are being left behind. During our consultations, we heard concern about the lack of support for adopting innovations and the impact this is having on the agricultural sector.

Incubation and acceleration emerged as a critical element from the beginning of our process. Industry stakeholders noted the absence of a comprehensive ecosystem for supporting entrepreneurs. We learned that B.C. producers are reaching out to agritech incubators and extension experts in Saskatchewan and Ontario for assistance, which reinforced our concern over the lack of support in our province.

Each of the global leaders in agriculture have programs in place to support agritech innovation at all stages of development. In the Netherlands, we learned about the 'golden triangle' of industry, government, and the academic sector, which has allowed them to become the world's second-largest agricultural exporter. B.C. needs a program to provide similar support for agritech innovation. As a result, we recommend that B.C. build an agritech incubator-accelerator.

RECOMMENDATION THREE:

Create an agriculture and agritech institute as a collaborative entity across post-secondary institutions to drive excellence in priority areas and deepen the knowledge base and talent pool for the agriculture innovation agenda.

The B.C. agricultural sector is facing a serious shortage of skilled workers. At the same time, young people who are interested in entering the sector struggle to access training opportunities. We believe there is an opportunity for B.C. universities to offer a wider array high quality agricultural research and training programs to meet industry demands and allow students to become leaders in their fields.

As a result of labour shortages and the seasonal nature of many agricultural tasks, B.C. farmers are looking for ways to increase mechanization and adopt new harvesting technologies. During our consultations, we learned that there is significant interest in developing and testing high-tech agricultural innovations. Most of the agricultural technologies currently being adopted in B.C. are imported from the Netherlands, but farms identified some challenges adapting these technologies to local needs. As a result, farmers emphasized the need for made in BC agritech solutions.

Strong academic sectors provide clear advantages to the agricultural industries in provinces like Saskatchewan and Ontario. Globally, world leaders such as the Netherlands and Japan have dedicated agritech programs and institutions with strong government support. Our consultations with academics across B.C. suggested that more government support for agritech research and education would be valuable, along with addressing our fragmented institutional framework. This supports our recommendation that B.C. needs a dedicated agritech institute capable of training skilled workers, developing innovative technologies and coordinating agricultural research throughout the province.

RECOMMENDATION FOUR:

Ensure there is a place to grow food and support emerging agritech industries by examining land use policies and other regulatory considerations and incentives.

If the B.C. agricultural sector is to remain globally competitive, it needs a place to grow. Innovative food companies and agritech start-ups are developing products that can support food security and designing technologies capable of addressing climate concerns, yet they are stifled by space constraints. Land shortages are preventing B.C. companies from scaling up, driving some out of the province entirely.

This lack of space was highlighted in almost every consultation we held across the province. While B.C. must protect its agricultural land base, restrictions on land uses are severely hampering innovation and adoption of new methods related to agricultural production.

While exploring potential solutions, we found that the Netherlands has developed a policy approach that combines an emphasis on protecting agricultural production with a flexible land-use approach designed to encourage agritech innovation. We believe that the same method can be encouraged here. We recommend creating agritech zoning within the ALR. This approach would maintain the current boundaries of the ALR, thereby reserving land for agricultural production while allowing additional uses designed to encourage agritech innovation.

RECURRING THEMES

A full summary of meetings and engagements is appended and a summary of the online engagement is available here. A few highlights are explored below grouped by theme.

"TIME IS NOW"

Agriculture is changing. Though the sector is diverse, there was unanimous agreement in the necessity and timeliness of engagement over agritech. Our engagement process garnered strong interest both inside and outside of British Columbia. Several industry stakeholders stressed the need to work quickly if we are to compete with powerhouses such as the Netherlands and up and coming agritech players such as Singapore and Israel. Policy makers in Saskatchewan and Ontario and representatives from federal organizations such as Western Economic Development commended our approach as forward thinking and a model for other jurisdictions. The message was clear: agritech's time has come.

Why? The Conference Board of Canada reminded us that the modern Canadian agricultural enterprise is "not your grandmother's farm". At operations such as Windset Farms in the Lower Mainland we saw this firsthand. They are using mechanization to overcome the critical labour shortages in the sector. Both Windset and the Conference Board stressed the need to engage the public in the exciting evolution of agriculture. Agritech is a critical element of the production of safe and sustainable food, yet the same public that embraces smartphones and cloud computing is hesitant of advances in agricultural production. As we heard, "we need to tell our stories better".

"SUSTAINABILITY IS ESSENTIAL"

The agricultural industry is a critical pillar of the The transition to a sustainable economy. Across the province, we heard growing concern over the impacts of climate change. We arrived in Fort St. John during one of the worst harvests on record: extreme weather prevented farmers from bringing in their crops before the snow fell. At the Summerland Research and Development Centre, we learned about the shifting range of cherry production, which is both a challenge and opportunity for growers. On B.C. farms, climate adaptation is happening now, and impacts are being felt with increasing frequency and severity.

In the Okanagan, we also learned about the challenges of preventing food waste. Our consultation with the academic sector supported this finding; Canada leads the world in food waste, a title we need to shed! In the Netherlands we saw strong commitment to achieving the SDG commitment to cut food waste in half by 2050. In general, the Netherlands has committed to meeting SDGs. We also learned that sustainability does not always mean self-sufficiency. In Saskatchewan, Western Economic Development Canada presented the idea of an agricultural corridor across the prairies to British Columbia's ports. Saskatchewan has forty percent of Canada's farmland, and the most sustainable way to ship grains and plant proteins is in dry form to tidewater. B.C. could then process these foods and ship value-added products from our ports.

"INNOVATION BUILDS LEADERS"

A vibrant agritech sector requires a thriving innovation ecosystem. In Ottawa, David Jones of Xylon Biotechnologies lamented that "we are a country of pilot projects". Taking our good ideas global requires what the CEO of Terramera described as assistance in "scaling to the next level and beyond". In Kelowna, we saw firsthand how incubation spaces can bring success to all regions of B.C., and our consultation with Genome BC demonstrated the power of provincial-federal cooperation in the innovation space. Genome BC is eager to expand its presence in the agritech sector. They are one of many enthusiastic potential partners for agritech development.

Agritech innovation speaks to all regions and scales. In Fort St. John, there was strong support for expansion of the government's Food Hub Network initiative and adaptation of agritech even on small farms. An organic vegetable grower in Comox showed us micro-scale cooling technology that helped their farm minimize food waste. We also found venture capitalists willing to work with British Columbia businesses. A contingent from the Netherlands composed of government, venture funders, and industry came to Canada looking for companies for investment and partnership potential and were not able to find the future-forward companies they were looking for. In Rotterdam, we learned about an urban agritech hub loosely based upon opportunity districts in London and Seoul.

"STRONG ACADEMICS: STRONG FARMS"

The academic sector plays a strong role in the successful agritech sectors we visited outside of B.C. At Guelph, Canada's "food university", we found excellence grounded in a "field to table" approach to agricultural research. Guelph is supported by provincial funding through the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), but in return, researchers are encouraged to solve pressing problems identified by industry and government. In Saskatoon, the Global Institute for Food Security is semi-independent from the university yet serves as a home for "as needed" research collaboration across disciplines. Inside the university, a targeted research chair program supports provincial agricultural priorities. Though successful, both Guelph and the University of Saskatchewan noted a lack of agricultural engineering expertise in Canada. In the Netherlands Wageningen University is one of the world's leading agricultural institutes. It forms part of the Dutch "golden triangle" approach to agritech: industry, government and academia work together in the "top sector" areas of food and agrifood, and horticulture.

We held a round table in Vancouver with nine representatives of small and large B.C. post-secondary institutions. They delivered a strong message that world-class talent exists at numerous sites around the province, but the challenge is a lack of collaboration across silos. They suggested that B.C. be a global leader on targeted sub-sectors of agriculture and that institutions collaborate to solve problems as they arise. There is a need for a "long game" in developing expertise locally. They also urged us to think outside of production, giving the example of food waste as an area where we could excel.

"A PLACE TO GROW"

Producers in B.C. voiced support for the principle of the ALR, but expressed frustration at the limitations, specifically with respect to processing. This was true of in-person consultation and the results of the online engagement. Agritech entrepreneurs strongly expressed the need for more industrial land in the Lower Mainland, or a relaxation of the limitations to activities on the ALR. Many Vancouver-based companies presented lack of space as a critical challenge. We also heard that other jurisdictions are actively courting B.C. agritech businesses with offers of space and resources.

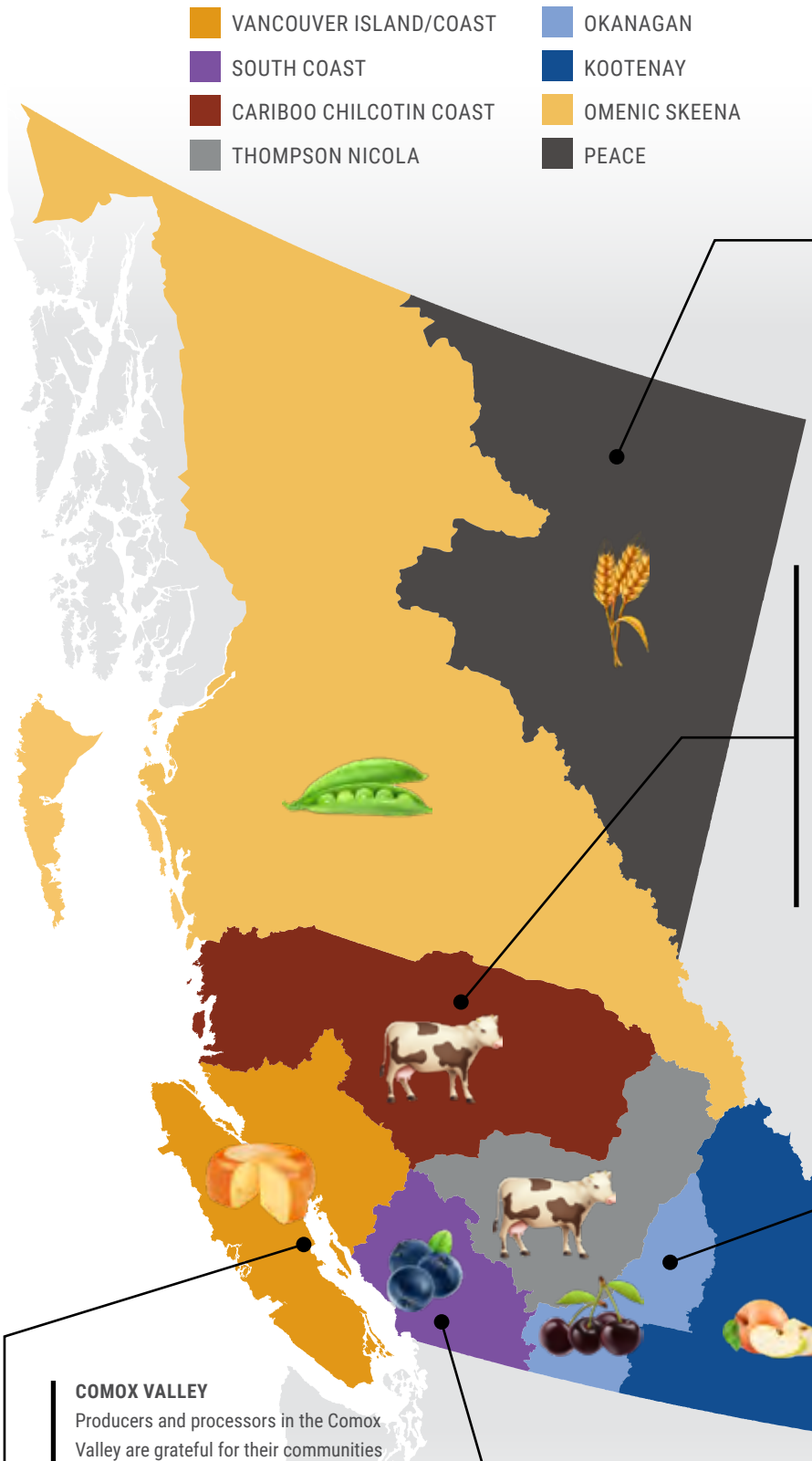
From the Business Council of BC (BCBC), Canada Business Council, government and industry, we heard a strong message that the Port of Vancouver is a critical asset to the agritech sector. We also heard this in Saskatchewan, in regard to the need to ship raw commodities through an agricultural corridor to B.C. and then on to the world. BCBC highlighted a review of the ALR as priority and noted the lack of industrial space as a key factor. They stressed that business is highly innovative, if we give them the space to be innovative.

In the Netherlands, we saw how their "green heart" combines the best of agricultural land protection with flexibility to encourage agritech development. However, the Netherlands, like B.C., remains challenged by availability of land. The Dutch government is trying to free up additional land by lowering the amount of agricultural land used for animal fodder and forage. As the primary use of the ALR in the Lower Mainland is for animal fodder and forage, we should monitor their progress. The Dutch currently reap twenty billion dollars in farm gate sales annually from the 1,500 square kilometers of the green heart, a much higher rate of return than we are currently realizing from the ALR.

"COLLABORATE AND COOPERATE"

A key finding from our consultation process was the critical role of collaboration in building a thriving world-class agritech sector. In Ontario, the cooperation between the provincial government, Guelph, and industry plugs into a vibrant incubation and acceleration culture. In Saskatchewan, resources are much more modest, but their focus on a few key commodities bridges federal, provincial, and industry funding. The University of Saskatchewan provides critical support for these commodities. In B.C., the Summerland research station is an excellent example of research support for industry. Through focus on a few key areas they "do a lot with a little".

The Task Force heard, repeatedly, that the alignment between industry, government and academia is crucial to the success of sectors that are thriving and highly competitive. In the Netherlands, the "triple helix" or "golden triangle" was repeatedly identified as the reason why the sector is so successful. While the concept is not new, the Task Force heard in the jurisdictions how it is an embedded part of the way that business is done, and it is a known and deeply woven in principle



PEACE

The Peace engagement highlighted the region's desires to focus on conserving the agriculture industry that exists today within the region, as well as an interest in further diversifying the economy through agriculture. Stakeholders expressed interest in supporting and pursuing modest innovations that will enhance production and innovation in new supply chain opportunities, as well as looking at opportunities for synergy with the oil and gas sector to support food production, such as capturing waste heat and co-generation. Among the barriers to sector growth are access to land and capital, transportation costs, and the effects of climate change. The region also identified opportunities for growth which include expanding food processing and value-added food production.

CARIBOO

The Cariboo region identified connectivity challenges as a barrier to innovation and communication, contributing to issues such as fragmented industry coordination. Expanding these networks could help alleviate these pressures, realize R&D partnership opportunities and help facilitate agritech implementation and adoption. Regional consumers are interested in sustainable operations and buying local, however it was noted that further support, such as greater access to Infrastructure (e.g., abattoirs) is necessary for ranchers to supply existing local markets and expand into other markets.

OKANAGAN

The Okanagan engagements revealed barriers to exporting product and accessing markets to remain competitive. Research centres like AAFC Summerland are key to supporting long- term innovation priorities. Among the challenges are the effects of climate change which are shifting growing patterns. Addressing land access and challenges with regulations resonated with many stakeholders during the engagements. There is a strong potential for agriculture value added and agritech in this region.

COMOX VALLEY

Producers and processors in the Comox Valley are grateful for their communities and the lifestyle that small-scale farming provides. Many stakeholders indicated interest in developing / maintaining sustainable operations with an emphasis on local inputs to produce high-quality products for their customers. However, supply chain barriers in the region inhibit innovation and growth.

LOWER MAINLAND

Companies in the Lower Mainland strongly recognize the economic benefits of exploring innovative technologies and are taking risks to develop and implement agritech solutions. They identified a lack of support for farmers to adopt commercialized agri-technologies as a barrier. Stakeholders in the region believe the industry's diversity is a competitive advantage but capitalizing on this requires better infrastructure to develop niche product markets. Developing a strong and consistent BC brand is a suggestion that emerged continue the growth and success of the sector.

GLOBAL CONTEXT

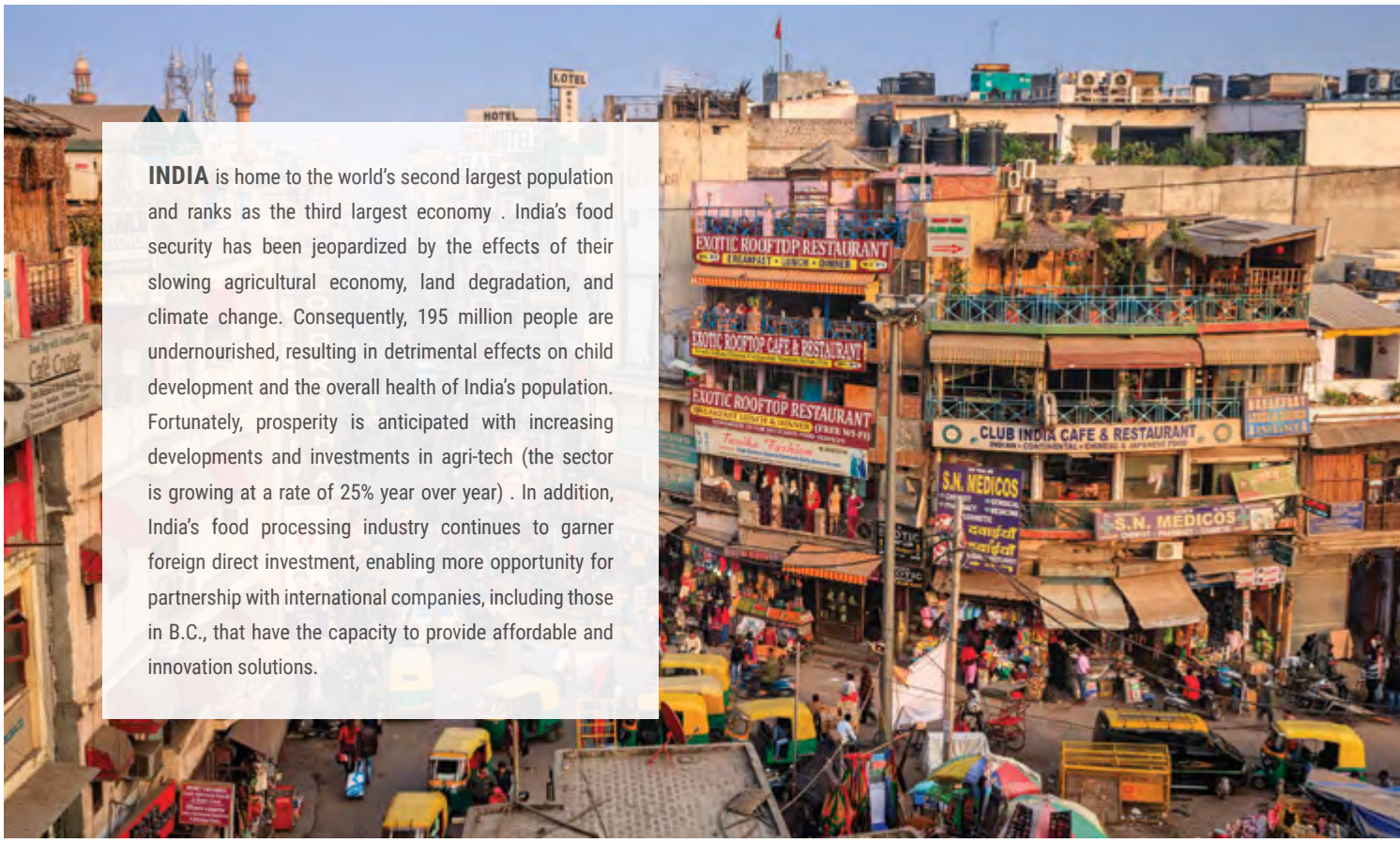
In conducting our consultation, we considered B.C.'s and Canada's positions within the global context. We sought to gain advice and confirmation of our interpretations from those in other jurisdictions about the viability of B.C. becoming the supplier of choice for technology in some of these jurisdictions, recognizing that there are other areas with similar advantages to B.C.

Consultations with representatives in international jurisdictions provided input that Canada and B.C. do and will continue to have a strong brand that leads to opportunity to do business in agriculture, food and agritech in key market areas that will have increasing demands for goods and technologies. There are other jurisdictions with similar natural advantages to B.C. that could capture the agritech opportunity. Natural resource endowments, diversity in crops, strengths in technology are not unique to B.C. Our province will face competition from and find collaborators among other jurisdictions participating in this space. We believe that much of the success and advantage for B.C. will be in developing key partnerships for innovation and knowledge exchange and being "next out of the gate" as an ambitious leader intending to make a significant play in the global agritech space. British Columbia's advantage will become our strong reputation and brand, our ability to connect with other jurisdictions including markets that will have a demand for technology, and the political will and provincial ambition to lead this opportunity.

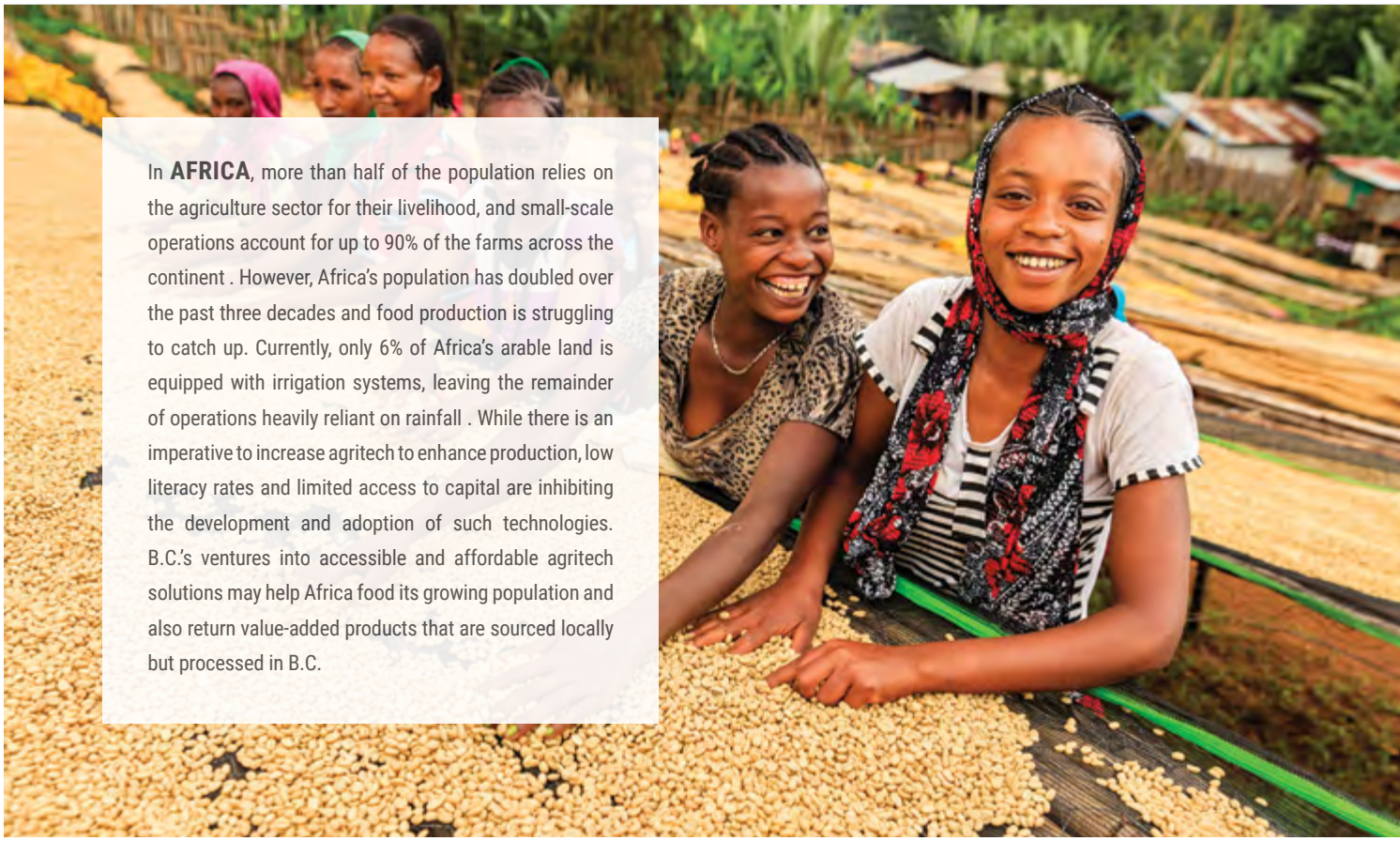
Based on these targeted consultations, focused on the global context, we have highlighted India, China, Japan and Africa as key emerging markets that B.C. can look to for developing strategic partnerships to meet the needs of growing populations/middle classes that will need to sustain themselves through technologies and innovative growing and processing practices.

The Netherlands will and should remain a key partner in developing innovation jointly with B.C., to mutually support developing companies, trial technologies between the two areas and collaborate on climate solutions. B.C. will continue to build its partnership in the Cascadia Innovation Corridor and build opportunities for companies to gain exposure and facilitate trials in Washington, Oregon and California.

CHINA has the second largest economy in the world, is the third largest importer of agriculture and food products , and is B.C.'s second largest trading partner. In 2017, B.C. exported $421 million worth of agricultural and food products to China, including valuable item such as crab, pork products, and cherries. With an ever-expanding population, China is experiencing increased challenges with domestic production, particularly for staple foods such as grains and soy beans. Flawed quality control, production short cuts and urbanization are putting more pressures on the Chinese food supply system. Chinese companies have expressed interest in collaborating with Canadians to innovate in food technology and products .



INDIA is home to the world's second largest population and ranks as the third largest economy . India's food security has been jeopardized by the effects of their slowing agricultural economy, land degradation, and climate change. Consequently, 195 million people are undernourished, resulting in detrimental effects on child development and the overall health of India's population. Fortunately, prosperity is anticipated with increasing developments and investments in agri-tech (the sector is growing at a rate of 25% year over year) . In addition, India's food processing industry continues to garner foreign direct investment, enabling more opportunity for partnership with international companies, including those in B.C., that have the capacity to provide affordable and innovation solutions.



In **AFRICA**, more than half of the population relies on the agriculture sector for their livelihood, and small-scale operations account for up to 90% of the farms across the continent . However, Africa's population has doubled over the past three decades and food production is struggling to catch up. Currently, only 6% of Africa's arable land is equipped with irrigation systems, leaving the remainder of operations heavily reliant on rainfall . While there is an imperative to increase agritech to enhance production, low literacy rates and limited access to capital are inhibiting the development and adoption of such technologies. B.C.'s ventures into accessible and affordable agritech solutions may help Africa food its growing population and also return value-added products that are sourced locally but processed in B.C.

JAPAN is well-known for innovative technology and its application to agriculture has been heavily researched since 1970. The Japanese population spends 25% of their income on food, compared to just 15% in North America. However, like many other countries, their food system is constrained by population growth, a shrinking agricultural workforce, and climate change. Following the 2011 climate disasters of the Great East Japan Earthquake and Tsunami, the demand for safe, untainted foods has increased, as well as support for agritech development. The adoption of indoor growing is popular in Japan but is constrained by lack of talent and expensive electricity. Despite the strides toward increased efficiency and production, volumes of all main commodities are declining. Fortunately for other nations, Japan imports 60% of their food and have invested in food processing operations abroad. B.C. can leverage its reputation of high-quality and safe foods to advance agritech partnerships and trade with Japan.

Now Canada's Ambassador to China, **DOMINIC BARTON** penned the 2017 Growth Papers as Chair of the Economic Advisory Council to the Primer Minister. These papers raised significant awareness for agriculture and agritech, calling out the sector to have significant potential to be unlocked and generate economic revenues for Canada.

GOLDY HYDER is the President and CEO of the Business Council of Canada, an entity that has been offering strategic investment and trade support to Canadian businesses for 43 years. In a discussion with the Task Force, Goldy agreed that the food sector is an important part of Canada's current and future economy, bringing in new dollars through exports and creating quality, well-paid jobs. Goldy expressed his excitement and support for B.C. to take a lead role in the opportunity of agriculture and agritech sectors of Canada.

NADIR PATEL, High Commissioner of Canada in India, has extensive experience in Canadian economics and trade flows from current and previous roles. Nadir told the Task Force that there is already a presence of Canadian agritech companies in India, but work needs to be done to strengthen the trade partnership. He believes Canadian agritech companies have the potential to help countries like India find solutions to food sector challenges associated with climate change, growing populations and shifting consumer demands.

POSITIONING TO MEET THE GROWING DEMAND FOR SAFE, SUSTAINABLY PRODUCED PROTEINS IN EMERGING MARKETS

Global food consumption is expected to rise steadily at 2 per cent per year, with 90 per cent of the growth coming from emerging markets. The demand globally for meat proteins is expected to double from 2010 to 2050, from 227 million metric tonnes to 464 million metric tonnes. While consumer trends in North America are incorporating more plant-based alternatives, the demand for high quality meat proteins is on the rise in other jurisdictions. In 2018, Canada's beef industry exported $2.75 billion (398,580 tonnes) of beef, representing 38 per cent of domestic slaughter. Asia is a key beef market with increased consumption and higher prices paid for Canadian product. Canadian exports of beef to Japan reached a record high in 2018.

B.C.'s international exports of animal products have steadily increased since 2011. In 2018, B.C. exported $365 million worth of animals and animal products (meat, eggs, dairy) to over 70 markets, representing a 25% growth over 2017. Primary markets of these products include the U.S. (55 per cent), Japan (13 per cent), China (12 per cent) and the Philippines (5 per cent).

Pork that is processed in B.C. accounts for almost a third of B.C.'s animal-related exports ($107 million) – with Japan, China and Taiwan being primary markets. Pork is a staple of the Chinese diet, with the average person consuming 30kg per year (in comparison to the average Canadian who consumes 16 kg per year). China is struggling with a chronic pork shortage, due to widespread outbreak of African swine fever, and therefore relies heavily on imports to satisfy local demand. With a global reputation as a safe and reliable supplier of pork products – combined with strong industry marketing, quality control and animal care support – B.C. is positioned to continue to benefit from increased global demand for its pork and other meat products.

THE NETHERLANDS packs a heavy punch in the global food market considering its modest size. In terms of land areas, the Netherlands is ranked 131st in the world. In terms of food, the country ranked second largest exporter of agricultural products in the world, with a 18.2% market share of food exported or a total of $31 billion USD annually. Only the US had a higher export value, however the US is approximately 227 times the size of the Netherlands. This success as a global leader in agricultural production is due agricultural intensification (increased production per unit of input), focus on high-value products (horticulture production, dairy and eggs, and animal-based proteins), investment in R&D (private-public partnership), strong supply chain logistics, and agricultural land protection mechanisms.

Because of its small land base and limited amount of resources, the Dutch rely heavily on technology and innovation to maintain international competitiveness, increase agricultural intensification, and improved sustainability—the Dutch agriculture sector has the lowest environmental impact per kg of product of all countries in the world. The Dutch agritech sector generates over $10 billion USD export dollars and adds 50% in value to the agriculture sector. Key technologies that have enabled the Netherlands to be a world leader in food production include precision farming like vertical growing to reduce resource inputs, data analytics to monitor or predict most effective production practices, sensor technologies to collect data for better decision-making for farmers and automation/robotics along the full value-chain of food production.

The agritech sector relies on strong partnership between industry and academia, working together to solve sector challenges to help keep the farmer competitive and combat climate change. The Netherlands is home to Wageningen University, internationally recognized for its agricultural R&D and strong collaborative approach with private sector. Fostering and strengthening this relationship is a priority for the Dutch government, who use tools like facilitating networks and creating incentives to increase collaboration among sector stakeholders.

Leveraging market access and strong supply chain logistics (physical and virtual) is ingrained in the Dutch business culture. The Netherlands claims to be the gateway to European markets, using an open market approach, business friendly fiscal plan, and a multilingual labour market to maintain their competitiveness in export markets. With three-deep-water ports, including Europe's largest, the Rotterdam, the Dutch move more than 580 million metric tons annually. Further, they are home to the second largest airport in the EU, the Schiphol Airport, and have another six international airports within a 1.5 hour drive.

THE DUTCH TOPSECTOR APPROACH How has this tiny country managed to position itself at the top? To maintain its competitive edge in the global markets, the Netherlands implemented the Topsector approach—which does not only bolster the country for strong economic growth, it also targets societal issues like aging population and climate change. `

THERE ARE 9 TOPSECTORS:

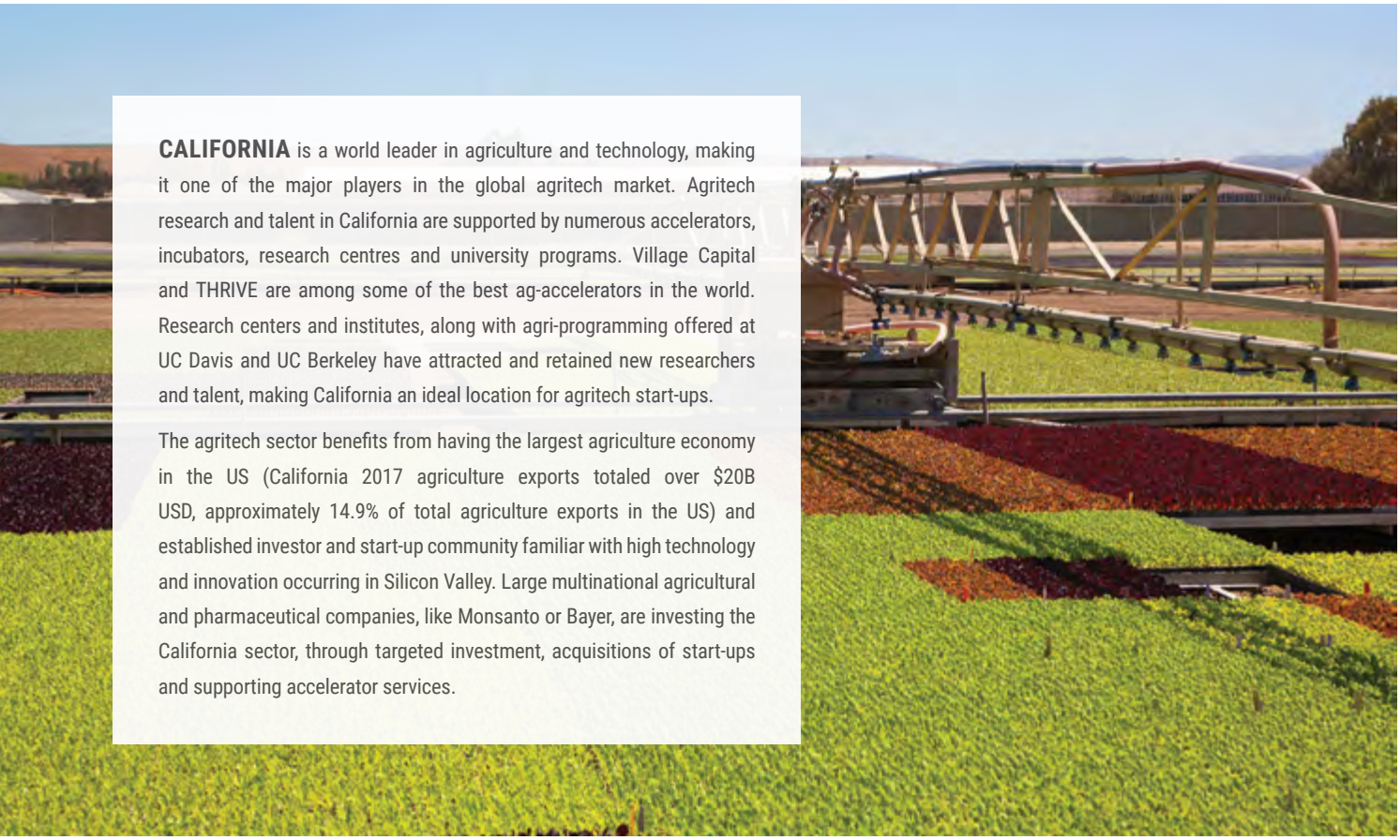
1. High tech systems and materials
2. Horticulture & starting materials
3. Creative industry
4. Life sciences and health
5. Chemical
6. Energy
7. Agri & food
8. Water
9. Logistics

The Topsector approach uses a world-renowned operational framework between industry, academia and government—also known as the Triple Helix—where this unique form of collaboration is designed to promote innovation, attract talent, and ensure solid international presence in priority sectors. Each Topsector has a Board of Chairs that consist of representation from each partner. This Board is responsible for identifying priorities for each sector and disseminating these priorities to their associated stakeholders—consensus-based decision making like priorities, is critical to the success of the Topsectors. The Agri & Food Topsector has identified priorities like healthier diets, food waste, more sustainable protein sources and circular economy, and have aligned with the UN SGDs. The success of the Topsectors is not only due to the Triple Helix—it is also attributed to the cross-fertilization between sectors that produce clear value, which collectively work to address big societal issues.

ISRAEL'S success story in agriculture deserves global recognition. Despite its low endowment in arable land (20%) and debilitatingly low water supply, the country has been able to almost triple its farming land base and increased food production almost 16 times since 1948. Today, Israel produces 95% of its own food requirements.

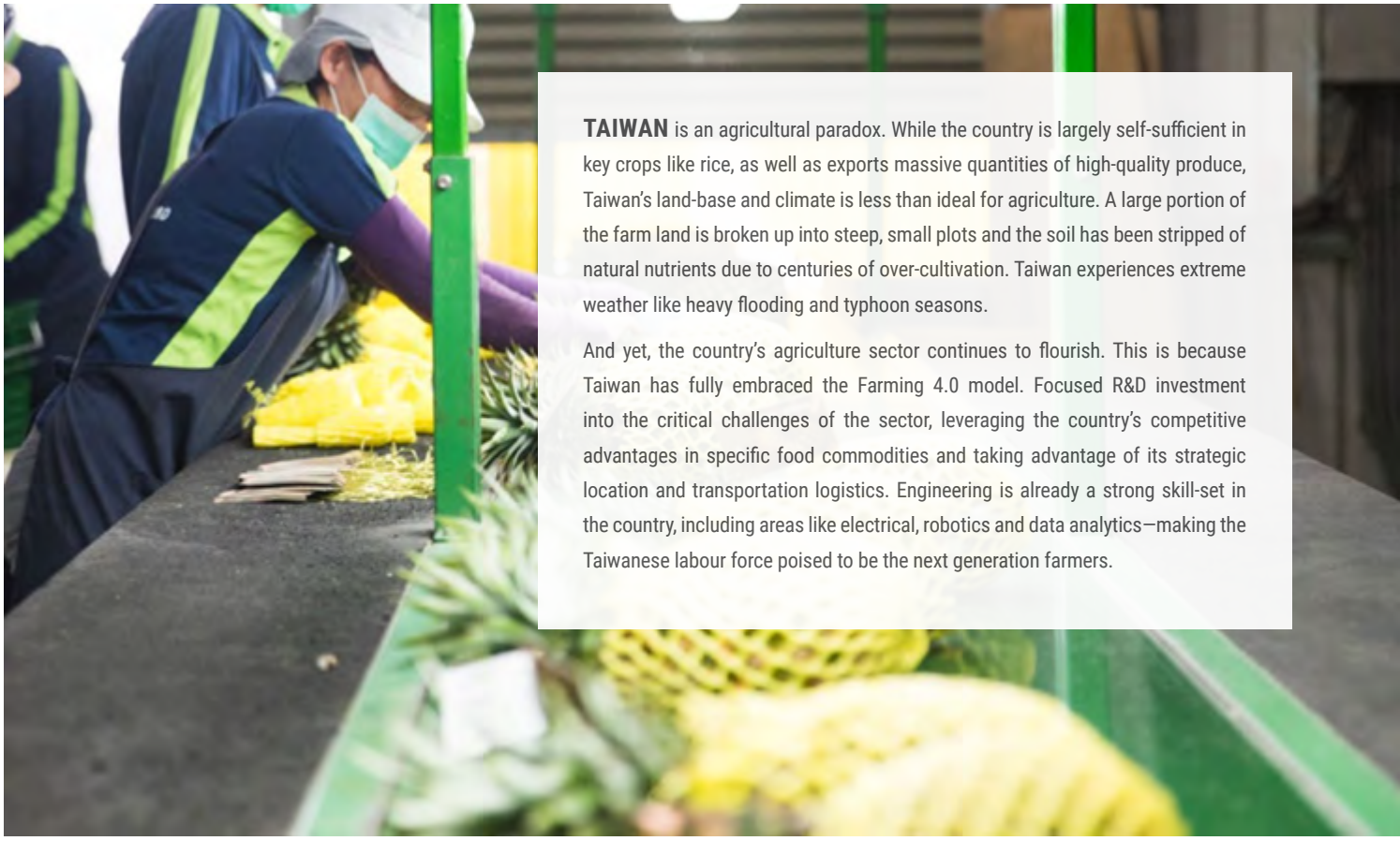
A primary contributor to this success is the strong partnership between farmers, industry, and technological research. R&D accounts for approximately 17% of Israel's budget for the agriculture sector. Key technology advancements to support food security include: computer-controlled irrigation, automated early-stage warming for irrigation leaks, thermal imaging for crop water management, biological pest control and new crop varieties. Israel is home to a large and growing precision agritech sector, comprised of more than 450 companies offering data collection and analytics to help local and international farmers be more efficient and productive.

An example of an Israel-based agritech company is the cloud-based AKOLOgic farm management system from Kibbutz-based Agricultural Knowledge On-Line, which gives farmers constant updates on regulatory guidelines through a single dashboard.



CALIFORNIA is a world leader in agriculture and technology, making it one of the major players in the global agritech market. Agritech research and talent in California are supported by numerous accelerators, incubators, research centres and university programs. Village Capital and THRIVE are among some of the best ag-accelerators in the world. Research centers and institutes, along with agri-programming offered at UC Davis and UC Berkeley have attracted and retained new researchers and talent, making California an ideal location for agritech start-ups.

The agritech sector benefits from having the largest agriculture economy in the US (California 2017 agriculture exports totaled over $20B USD, approximately 14.9% of total agriculture exports in the US) and established investor and start-up community familiar with high technology and innovation occurring in Silicon Valley. Large multinational agricultural and pharmaceutical companies, like Monsanto or Bayer, are investing the California sector, through targeted investment, acquisitions of start-ups and supporting accelerator services.



TAIWAN is an agricultural paradox. While the country is largely self-sufficient in key crops like rice, as well as exports massive quantities of high-quality produce, Taiwan's land-base and climate is less than ideal for agriculture. A large portion of the farm land is broken up into steep, small plots and the soil has been stripped of natural nutrients due to centuries of over-cultivation. Taiwan experiences extreme weather like heavy flooding and typhoon seasons.

And yet, the country's agriculture sector continues to flourish. This is because Taiwan has fully embraced the Farming 4.0 model. Focused R&D investment into the critical challenges of the sector, leveraging the country's competitive advantages in specific food commodities and taking advantage of its strategic location and transportation logistics. Engineering is already a strong skill-set in the country, including areas like electrical, robotics and data analytics—making the Taiwanese labour force poised to be the next generation farmers.

Located in southern Ontario, **GUELPH** brings together all the key ingredients for a prospering, innovative agriculture sector—a world renowned research and development centre at the University of Guelph, and a cluster of government and industry support services. The surrounding area of Guelph (County of Wellington) is 75% agricultural land and is considered one of the most productive and fertile agricultural land in Ontario. In the region, there are more than 90 companies employing 6,500 people in a broad array of areas within the sector including government, education, agritech, biotech, supply chain, equipment, associations, R&D, and marketing. The Guelph cluster has a strong research presence that includes University of Guelph, Ontario Agriculture College, OMAFRA research farms that facilitates innovation ecosystem.

6. SUSTAINABLE DEVELOPMENT

Part of our mandate was to look at growing British Columbia's economy through agriculture, which involved carefully considering how to balance goals that would grow the sector's share of the provincial economy with the elements that go along with simply producing more food. Agriculture and food production cannot be considered in an economic sense without considering their impacts on the planet, and the benefits and complexities of the sector as it relates to people.

We were inspired by the United Nations' Sustainable Development Goals (SDGs) and their application to agriculture. Considering the SDGs as the key focus for growing the agriculture and agritech economies provides a consistent, balanced, environmentally and socially responsible framework for growing the sector.

Why BC Should Adopt the SDGs as the Guiding Framework for New Agrifood Policy

The seventeen Sustainable Development Goals (SDGs) form the core of the 2030 Agenda for Sustainable Development, which was adopted by all member states of the United Nations in 2015. This Agenda identifies that sustainable development includes not only addressing the environment, but also interconnected social and economic issues, so that it encompasses all aspects of human life and activity. The SDGs were designed to address the most pressing issues facing humans around the globe, such as poverty and climate change, while also being proactive in preventing such problems in the future. In other words, the 2030 Agenda and the SDGs serve as "a plan of action for people, planet, and prosperity," taking both urgently needed short term action and shifting the world to a resilient path in the long term.

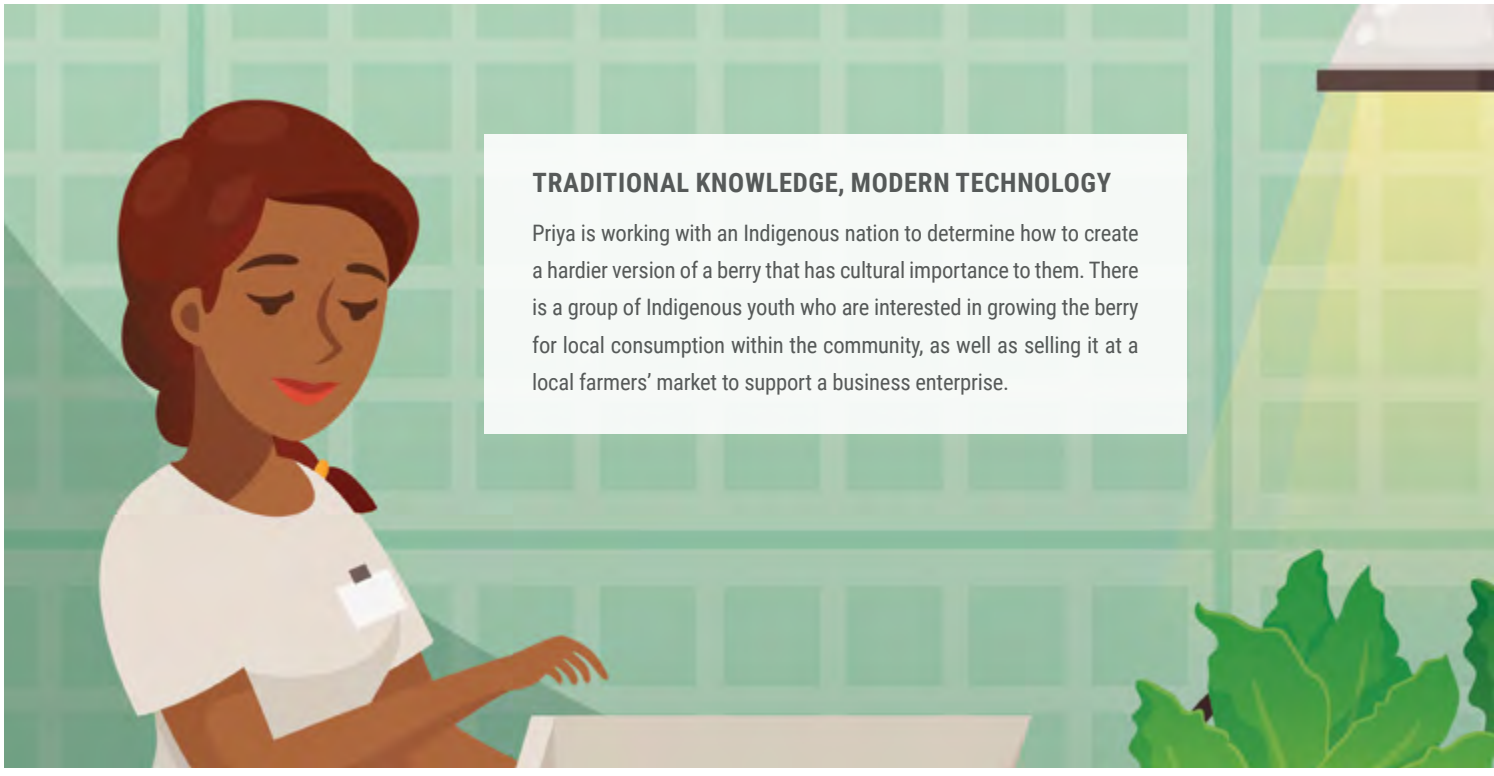
In Canada, both public and private entities have already begun working toward achieving the SDGs, both domestically and in collaboration with international partners. As part of developing this strategy, in 2019, the Government of Canada engaged with thousands of Canadians through a series of in-person and online consultations, as well as gleaned perspectives on SDG business priorities from over 500 businesses and organizations. Through these engagements, the government found widespread support across Canada for coordinated action to achieve the Sustainable Development Goals. They found that many entities in Canada's private sector have already begun to innovate their business models to generate sustainable social and environment value, in addition to economic. The government also found that many academic institutions are already aligning their research, teaching, and outreach activities with the SDGs. The engagement sessions also indicated that Canadians saw the need for collaboration among multiple levels of government and Indigenous groups to achieve the SDGs, and realized that there are strong links and synergies between Canada's domestic and international actions related to the SDGs. While Canada's national strategy for the SDGs is still in development, the interim report indicates the important role that provincial governments will have in the strategy, as many areas encompassed by the SDGs are under provincial jurisdiction.

As identified by the Government of Canada, the SDGs are universal and applicable to every country; in other words, they are as relevant to Canada as they are to any other country in the world, and to every Canadian as to every resident of all other nations. While most British Columbians are fortunate in that they do not live in poverty or experience food insecurity, global challenges such as climate change, depleting fisheries and polluted waters, and international economic instability threaten the capacity to continue to support widespread high standards of living and quality of life. The SDGs aim to increase resiliency for all populations, and to ensure that those who are currently able to meet their needs for healthy and comfortable lives can continue to do so.

A common misconception is that environmental protection and economic growth cannot co-exist; that is, a choice must be made between what is good for business (e.g., profit, job creation) and what is good for the planet (e.g. reducing pollution, increasing biodiversity). Examples from both within Canada and around the world, detailed in this report, demonstrate that this is not the case. That said, in order to maximize benefits and synergies across interests while minimizing trade-offs, the Sustainable Development Goals must not be pursued in isolation from one another, but rather as part of an integrated whole. For example, using more fossil fuels to power transportation to distribute food from where there is excess to where there is shortage could help increase food security (part of Goal 2), while compromising Goal 13, which calls for combatting climate change.

The 2030 Agenda calls for "developed" countries such as Canada to take the lead on improving sustainable production and consumption through adoption of policies "which increase productive capacities, productivity and productive employment; financial inclusion; sustainable agriculture, pastoralist and fisheries development; sustainable industrial development; universal access to affordable, reliable, sustainable, and modern energy services; sustainable transport systems, and quality and resilient infrastructure."

For the Government of British Columbia, developing and implementing agrifood policies guided by the SDGs has the clear benefit of ensuring that these policies contribute to integrated and synergistic efforts to increase not only provincial food systems sustainability, but also global resilience across sectors. Aligning with the SDGs will also help position the BC government and its partners as leaders in the global implementation of SDG-focused policies and actions. Furthermore, this will place BC "ahead of the game" in Canada, in anticipation of the finalization of a national SDG strategy, when the provinces will receive an official call to action from the national government to contribute to Canada's work on the SDGs.



TRADITIONAL KNOWLEDGE, MODERN TECHNOLOGY

Priya is working with an Indigenous nation to determine how to create a hardier version of a berry that has cultural importance to them. There is a group of Indigenous youth who are interested in growing the berry for local consumption within the community, as well as selling it at a local farmers' market to support a business enterprise.

RECOMMENDATION 1:

ADOPT THE UNITED NATIONS' SUSTAINABLE DEVELOPMENT GOALS (SDGS) AND SEEK TO IMPLEMENT THESE IN FUTURE AGRICULTURAL POLICIES

Actions:

- Endorse the SDGs and collect and disseminate appropriate information to policy-makers at all levels of government so that the SDGs guide future strategy and policy development as it pertains to agriculture, agritech and related climate policies.
- Create an Expert Advisory Council mandated to:
  - Identify priority areas for investment in agricultural technologies that reflects B.C.'s strengths and abilities to address the SDGs, and support high-value opportunities for rapid technology development and commercialization;
  - Discuss key performance indicators as they relate to the SDGs;
  - Provide ongoing advice to government regarding policy development;
- Target SDG 13 (climate change), by working with the Climate Action Secretariat to develop programming that will support for B.C. farmers to transition to lower carbon practices through technology and innovation.
- Target SDG 2 (Zero Hunger) and SDG 12 (Sustainable Consumption and Production) by developing novel technologies aimed at halving BC's food waste along the province's entire food supply chain and that can contribute to the effort to eliminating global hunger.

Key Performance Indicators (KPIs):

- A provincial agriculture, agritech, and climate change policy framework that incorporates the UN SDGs. Some critical measures or indicators are:
  - B.C. agriculture greenhouse gas emissions (SDG 13)
  - B.C. food waste at each stage of the food supply chain (SDG 12)
  - Exports of B.C. food to other jurisdictions (SDG 2)
  - Development and deployment of novel agricultural technologies (SDG 9)
  - Involvement of traditionally under-represented groups in the agritech agenda including youth, women and Indigenous British Columbians (SDGs 5 and 10)

SUSTAINABLE DEVELOPMENT GOALS (SDGS)

The following list overviews how the recommendations of the Task Force have the potential to contribute to the seventeen SDGs.

GOAL 1. End poverty in all its forms everywhere

While this SDG calls to end poverty on a global scale, growing the agriculture and agritech sectors in British Columbia also support B.C.'s Poverty Reduction Strategy through increasing the availability of affordable, locally grown food, increasing employment opportunities and bolstering economic activity which will in turn provide incremental government revenue to support poverty reduction programming.

GOAL 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture

All of our recommendations support achievement of this goal.

GOAL 3. Ensure healthy lives and promote well being for all at all ages

While British Columbia produces a diverse range of fruits, vegetables, grains, livestock, dairy and other foods, production tends to be concentrated in a few areas of the province and is subject to growing seasons. By employing technology to increase the availability of healthy foods produced within British Columbia, our recommendations will actively contribute to the health of the population and improve the availability of fresh, nutritious food in rural and remote parts of the province.

GOAL 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

By increasing capacity in the education sector related to agriculture, food systems, and agrifood technologies, our recommendations will help to ensure that more British Columbia residents can access appropriate learning opportunities to equip them to enter, thrive, and advance in the agrifood sector.

GOAL 5. Achieve gender equality and empower all women and girls

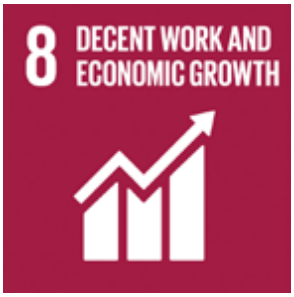
Women are already leaders in British Columbia's agriculture and food sector, as exemplified by Minister Lana Popham and the hundreds of female farmers and agribusiness leaders around the province. Our recommendations will provide more sector opportunities to be accessed by women.

GOAL 6. Ensure availability and sustainable management of water and sanitation for all

While British Columbia has long been known for its abundance of clean water, climate change and other human-generated impacts create challenges into the future. Task force recommendations around education, innovation, and land use will have secondary benefits of contributing to the maintenance of a safe and clean water supply and reducing the amounts of agricultural and food waste requiring management through sanitation.

GOAL 7. Ensure access to affordable, reliable, sustainable and modern energy for all

Our recommendations for innovative research have the potential to build capacity for research and development into how agrifood waste can become part of sustainable energy solutions and for increased efficiencies in energy use in food systems.



GOAL 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Recommendations for establishing a dedicated land area for agri-industrial development will create opportunities for more processing and agriculture-related industries to develop, locate, and expand in B.C., generating stable, skilled job opportunities for individuals across the province.

GOAL 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

The careful establishment of a dedicated land area for agri-industrial enterprises will increase capacity for growth in this sector, and public-private partnerships will ensure that B.C. is a leader in agritech innovation to support this sector

GOAL 10. Reduce inequality within and among countries

Education and support for initiatives which can create good jobs have the potential to lead to the reduction of inequality in B.C. and increase the standard of living for all British Columbians.

GOAL 11. Make cities and human settlements inclusive, safe, resilient and sustainable

By supporting revitalized use and protection of agricultural land, the recommendations will potentially increase the sustainability, resiliency, and safety of the peri-urban areas in which much of B.C.'s most productive farmland sits.

GOAL 12. Ensure sustainable consumption and production patterns

Our recommendations will support achievement of this goal in several ways. Innovation and education in the agrifood sector will support more sustainable food production in the province.

GOAL 13. Take urgent action to combat climate change and its impacts*

British Columbia has taken significant steps to address and mitigate climate change through the introduction of the CleanBC plan, making B.C. relatively unique in the world in terms of having a detailed, actionable plan to meet legislated GHG reduction targets. Our recommendations build on the importance of climate change to the province's food producers and general population. Recommendations which support innovation and increased local opportunities for processing and other agri-industrial activities via revised land use policies all have the potential to support climate change mitigation and adaptation.

GOAL 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development

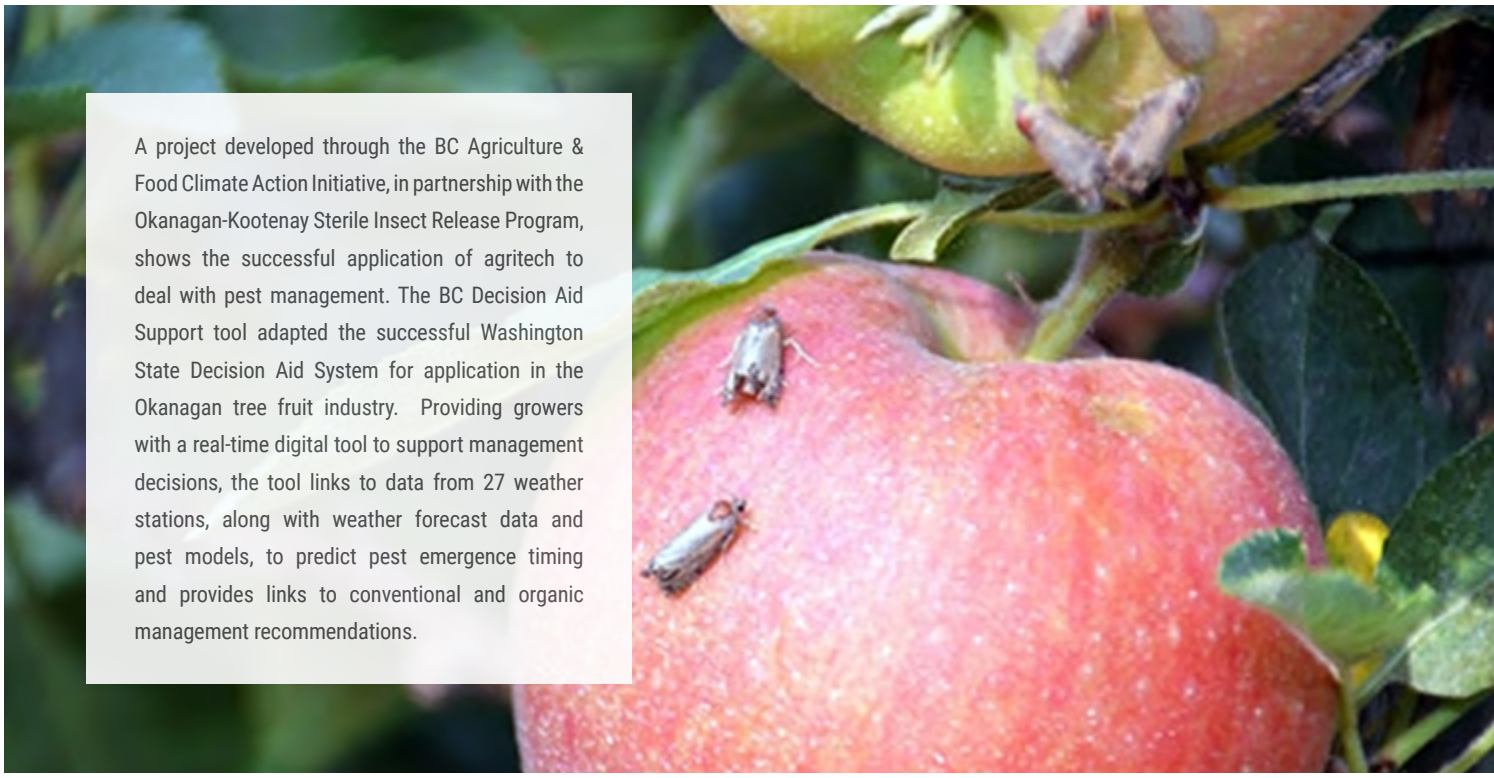
GOAL 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Within Canada, an estimated $31 billion worth of food is wasted annually (Value Chain Management International Inc., 2014); the value of this loss is compounded when the fuel, water, labor, and other resources used to produce the food are factored in. The FAO defines food waste as occurring at the retail and consumer/household level, however food loss occurs at other stages along the supply chain, such as when food is unable to get to a consumer or market. Fruits and vegetables, crucial for human health and B.C.'s agrifood economy, are among the foods most vulnerable to loss and waste. A key target for SDG 12 on sustainable consumption and production is cutting the rate of food loss and waste in half by 2030. Global experts argue that significantly reducing food waste is a necessary step in sustainably feeding the world's growing population (SDG 2), and that it can also contribute to other SDGs, such as combatting climate change (SDG 13) by reducing greenhouse gas emission, land conservation (SDG 15), and sustainable management of water and sanitation (SDG 6). As well as contributing to these sustainability goals, reducing food loss and waste has the potential to positively affect both the bottom line for producers and household finances for consumers (citation: FAO food waste report). Building on work already being done at the municipal, regional and provincial level in BC, increased capacity for education and innovation have the potential to realize both the environmental and economic benefits of reducing waste in the agriculture and food system.

CLIMATE CHANGE

As we conducted our work, the challenge of climate change was never far from our minds. Climate change for agriculture brings increased variability in weather patterns and heightened frequency and intensity of extreme weather events such as drought, flooding, and extreme heat, resulting in increased management complexity. Major extreme weather events, such as B.C. wildfires and flooding in 2017 and 2018 have had catastrophic impacts on the sector and on the profitability and livelihoods of farmers and ranchers. In the Lower Mainland, the salt wedge in the Fraser River has migrated further upstream, restricting access to irrigation water in Delta when water demand is greatest during the height of the growing season.

Climate change in agriculture is a serious issue. We heard from commodity groups that were already feeling significant threats from climate change. Supporting farmers and ranchers as they adapt to these conditions and, including through expanded access to relevant technologies will need to be a primary focus of B.C. agritech development.

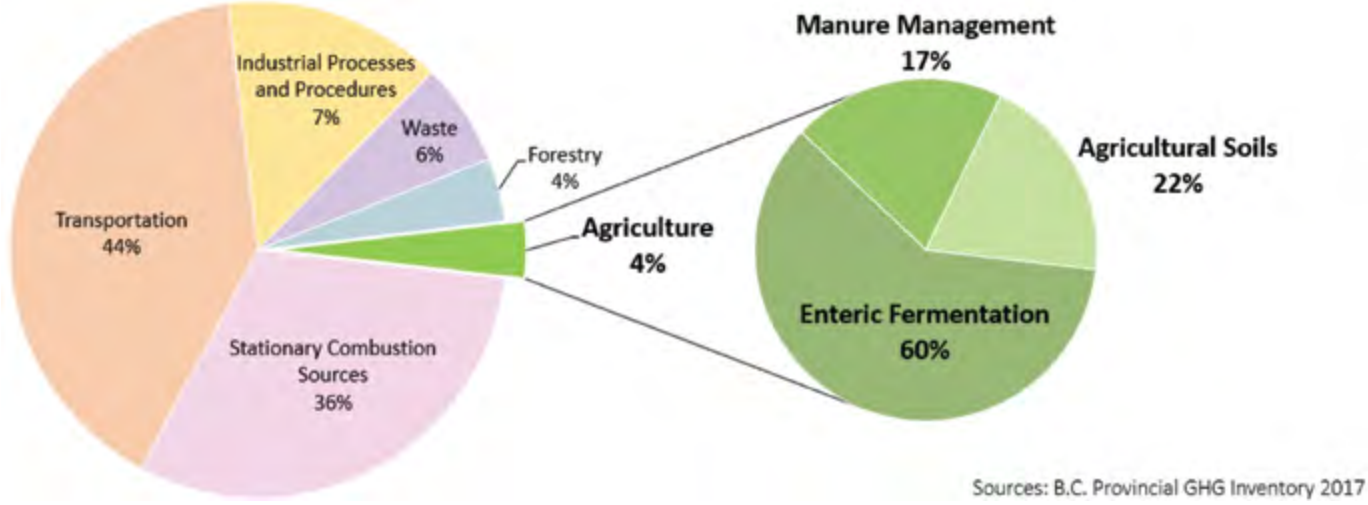


A project developed through the BC Agriculture & Food Climate Action Initiative, in partnership with the Okanagan-Kootenay Sterile Insect Release Program, shows the successful application of agritech to deal with pest management. The BC Decision Aid Support tool adapted the successful Washington State Decision Aid System for application in the Okanagan tree fruit industry. Providing growers with a real-time digital tool to support management decisions, the tool links to data from 27 weather stations, along with weather forecast data and pest models, to predict pest emergence timing and provides links to conventional and organic management recommendations.

In addition to adaptation, climate change action also requires all industrial sectors to play a part in reducing greenhouse gas emissions. The agriculture industry in B.C and globally, like all industrial sectors, has a carbon footprint that can be reduced through technology and innovation. While the B.C. agriculture sector has a comparatively small emissions footprint relative other sectors, at just 3.7 per cent of total provincial emissions, there are opportunities for emissions reductions that can play a role in contributing to emissions reductions goals, as well as creating technologies that can help transition the sector where emissions may be more intensive. From precision applications of fertilizers, to deficit irrigation that only uses as much water as is minimally required for crop health, to looking at energy efficiency and co-generation opportunities and nutrient management techniques – technology can significantly shift the way that the industry does business in order to support its transition to become a leading low carbon sector.

Working with agricultural partners, our recommendations will support the development and adoption of agri-technologies that meet the needs of farmers facing climate change challenges, while also supporting the sector's transition to B.C.'s low carbon economic growth.

B.C. Agricultural GHG Emissions: 2017 Total, 2390 kilotonnes CO2e



Sources: B.C. Provincial GHG Inventory 2017

The **CLIMATE ACTION INITIATIVE (CAI)** was established through a partnership between the BC Agriculture Council and the Investment Agriculture Foundation of BC in 2008. This initiative was designed to offer tools and resources that can increase the capacity of agriculture to adapt to climate change. In 2013, the CAI developed the Regional Adaptation Program, which facilitates the development of adaptation plans specific to a region and supports the implementation of projects to achieve priorities, strategies and actions identified in the plan. The Regional Adaptation Program is funded by the governments of Canada and B.C. under the Canadian Agriculture Partnership. It helps strengthen collaborative relationships across the agriculture sector, and with government, to improve knowledge and sharing of informational resources. Between 2013 and 2018, six regional plans and 41 regional projects were completed under the Program, with more than 400 individuals participating in the planning process. In the Cariboo, Delta, Fraser Valley, Okanagan and Peace regions, projects are still ongoing. Three new regional adaptation plans have recently been developed or are underway: Bulkley-Nechako & Fraser-Fort George (completed August 2019); Kootenay & Boundary (completed July 2019); and Vancouver Island (estimated completion summer 2020).

Climate Action Initiative
BC AGRICULTURE & FOOD

7. INNOVATION

All sectors and economies are being fundamentally restructured through the rapid development and deployment of innovations. Innovation is critical to driving the growth and resiliency of national and regional economies. In agriculture, farmers have innovating since the dawn of time, with pronounced shifts in the industry resulting from the domestication of plants and animals, the automation of work, innovations such as crop rotation, and the mass scaling of genetic and chemical applications. But the trend is expected to accelerate. Agriculture occasionally undergoes rapid disruption due to advances in technology with seed hybridization and chemical fertilizer being two examples. A further disruption is happening now. According to the OECD, "Innovation, which encompasses investments in R&D and the adoption of new products, processes and production practices, technologies and business strategies, will be key to helping the sector respond to these changing global forces by producing consumer-oriented products in a sustainable way, while remaining competitive at home and abroad. Science and technology, in particular, has a critical role to play in helping the food and agriculture sector achieve greater competitiveness, improve environmental performance, and contribute to the health and well-being of Canadians" (OECD, Report on Innovation, Agriculture Productivity and Sustainability in Canada, 2015).

During our engagements across B.C., Canada, and in other countries, we heard about the vital interplay between industry, academia, and government in stimulating innovation and technology development for the agritech sector. Major international firms, seeing the potential for developing and deploying agricultural technologies are increasingly investing in agritech R&D. In countries such as the Netherlands, they are also intricately linked to the start-up scene, acting as mentors and customers for novel innovations.

We were heartened to observe that B.C. boasts a solid foundation for rapid agritech development:

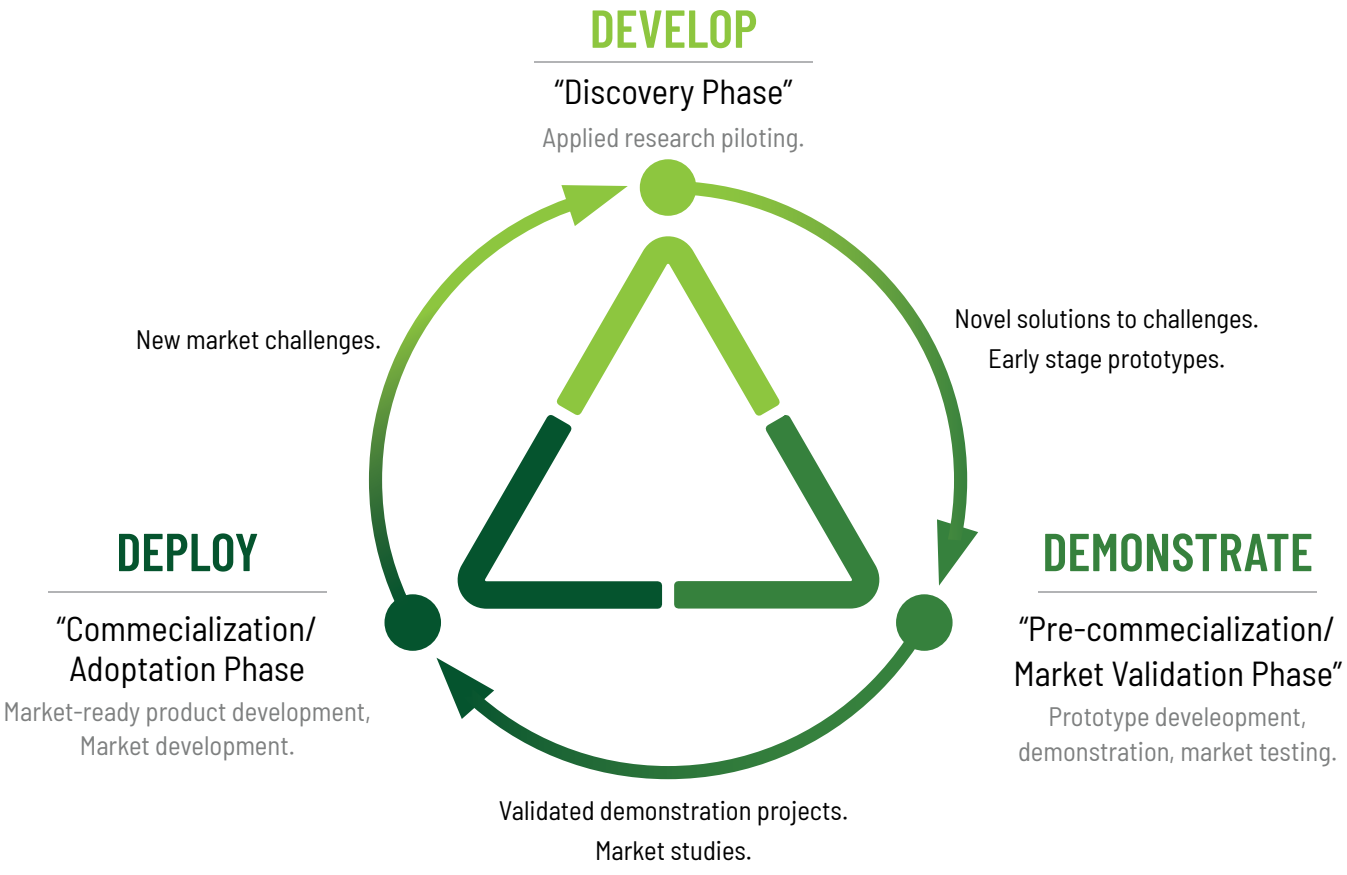
1. While current B.C. based agritech companies are nearly all quite small, we observed an entrepreneurial spirit and drive rivaling any we encountered internationally.
2. Some larger agriculture sector firms have begun prioritizing R&D as they see a transformation of their industry. These firms are usually supported by government funding programs.
3. B.C. is a global leader in many of the core technologies that are fueling the agritech revolution including artificial intelligence, robotics, sensor networks, material sciences, genomics, and data science.

This presents B.C. with a tremendous opportunity to strategically grow its presence in agritech. But the road ahead will not be easy. Countries such as the Netherlands, Israel, and Japan are investing heavily to become agritech world leaders. For example, the Netherlands has prioritized agriculture and agritech for nearly a century and much of the leading technology for agriculture now comes out of the Netherlands.

We propose that B.C. "jump ahead" and position itself to be a leader in technologies that will define the agriculture sector 5-10 years from now. The key features of a successful strategy are a virtuous cycle consisting of:

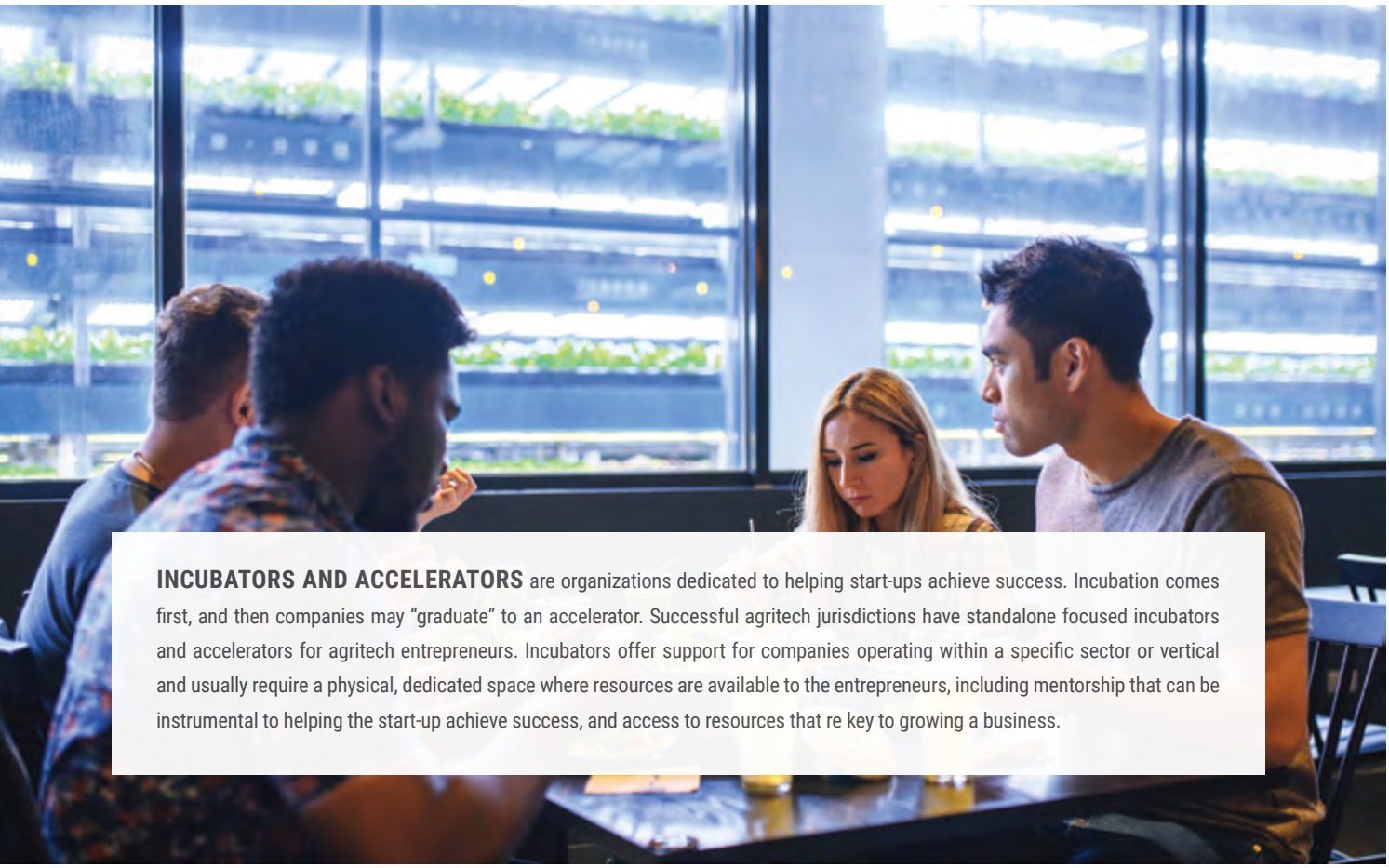
- Develop technologies by fostering linkages between B.C.'s technology and agriculture sectors to address challenges facing agriculture and to ensure novel productivity enhancing cutting-edge ideas and technologies address these challenges within the B.C. context.
- Demonstrate technologies in a real-life setting to ensure scalability and applicability. It is imperative that such demonstration projects be of a size and scale to showcase efficacy of the technology so that it can be readily marketed.
- Deploy technologies into firms including ensuring the expertise is within these firms to maximally leverage these technologies. While initially we expect deployment will be within B.C. firms, over time we expect deployment will happen around the world.

As new technologies are deployed, new challenges will be identified which will require further technology development thus helping B.C. maintain leadership in the agritech space.



Stakeholders told us that the agritech sector in B.C. is highly fragmented. There are many small start-ups scattered throughout the Lower Mainland and across the province developing agritech, clean tech and high-tech solutions. Similarly, there is research occurring in post-secondary institutes that is divorced from the agritech sector. Despite these developments, a lack of coordination means that B.C. is not maximizing its full potential to draw on its natural advantages, leveraging its strengths, and building on successes. Establishing avenues for information sharing, for prioritizing, and for developing core expertise are all critical if B.C. is going to lead the world in developing key agritech solutions. In moving towards the development of an innovation strategy for the B.C. agriculture and agritech sector, this recommendation is intended to identify the need for such a strategy to encompass activity that occurs along the entire innovation continuum.

At the heart of this innovation strategy is the ability to harness the creativity of people so they can quickly realize new opportunities. Leading jurisdictions have created purpose-built incubators and accelerators to ensure novel ideas with a business case can be turned into start-ups. In the agritech space, it is also critical that space be made available to demonstrate technologies at scale. Such space must simulate an actual agricultural setting and such spaces are becoming ever more common place in leading jurisdictions. As well, recognizing the extremely high-risk, high-reward of these demonstration projects, it is incumbent that requisite government funding be made available. Advanced technology deployment often requires a co-funding model whereby governments act to de-risk adoption while ensuring the private sector provides maximal funding.



INCUBATORS AND ACCELERATORS are organizations dedicated to helping start-ups achieve success. Incubation comes first, and then companies may "graduate" to an accelerator. Successful agritech jurisdictions have standalone focused incubators and accelerators for agritech entrepreneurs. Incubators offer support for companies operating within a specific sector or vertical and usually require a physical, dedicated space where resources are available to the entrepreneurs, including mentorship that can be instrumental to helping the start-up achieve success, and access to resources that re key to growing a business.

Within an incubator, entrepreneurs

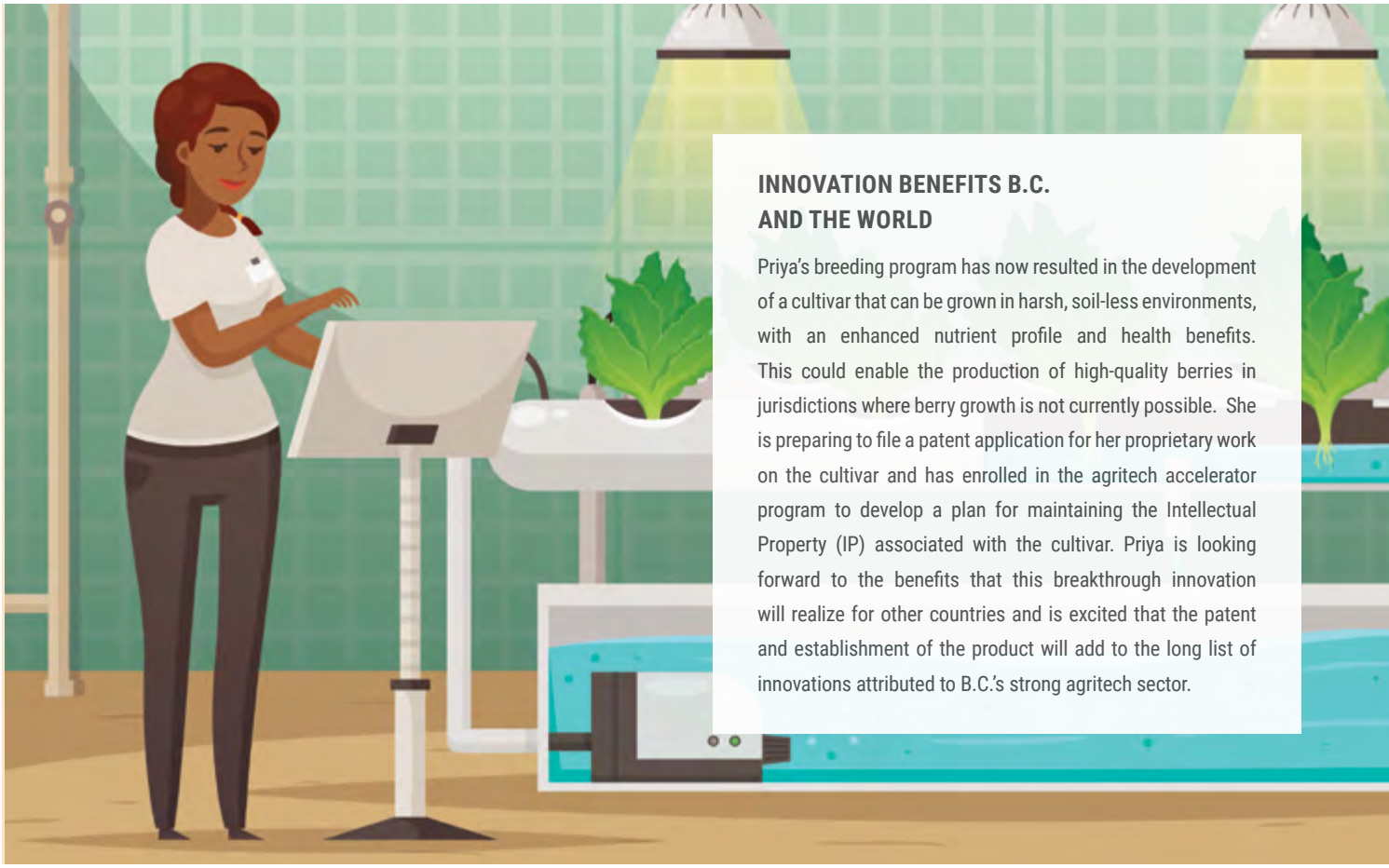
- Meet other entrepreneurs creating "collisions" so that a start-up team gets created. There are many examples of co-founders finding each other in an incubator.
- Learn how to test for market fit
- Create a business plan
- Learn about intellectual property and how best to protect their ideas/technologies
- Can incorporate a start-up, join with another start-up to bring together their resources
- Learn about government funding (in B.C., this includes SRED, NRC-IRAP, BC venture capital tax credit, Mitacs, etc.
- Meet investors including angels, venture capitalists, etc.

Incubators are often organized as co-working space:

- We observed that successful agritech jurisdictions have standalone agritech accelerators. Access to other experts within the sector is also a key feature of incubators. In some models, startup companies have an "in residence" period within the physical space of the incubator and larger companies also have a company presence within the incubator, renting out space. This allows the small companies to access the larger companies to help hone their technologies and business models to suit the needs of larger companies that could become investors or partners, and allows the larger companies access to an innovation pipeline. This model also supports a model that could be financially self-sustaining over time.
- Traditionally incubators want to house start-ups only at an early stage. Once the start-up is established they normally push the firm to an accelerator or relocate to their own space

Accelerators

- An organization (for-profit or not-for-profit) dedicated to helping early stage start-ups "accelerate" their growth and become viable firms.
- Accelerators tend to be broader in their sectoral reach, focused much more on the firm.
- Often have a mentor network similar to an incubator but with mentors having expertise in growing firms. Often these mentor networks are far larger and with better expertise than those in an incubator (but there is a lot of variability around this).
- Rigorous application process where start-ups must show a minimum viable product, market fit, basic business plan, and dedicated entrepreneur(s) ready to put serious effort into building the firm.
- Within an accelerator, a start-up is pushed to obtain funding, test the product in the market and adjust accordingly, meet funders. Accelerators will make introductions to VC's and private capital to get their firms properly resources. Accelerators with physical space charge for that space similar to co-working space. But also, many firms associated with an accelerator will have their own space or be located in co-working space.
- Accelerators often have their own seed fund:
    - When selecting a start-up, the Accelerator may allocate some of this fund
    - The Accelerator receives equity in exchange for seed funding
    - The Accelerator may choose to bring other funders for seed funding
    - Accelerators have varying terms for their funding
    - The Accelerator mentor network often provides funding to firms in the Accelerator
- Normally a firm will stay in the accelerator until it receives VC funding. Some firms will join more than one accelerator.



INNOVATION BENEFITS B.C. AND THE WORLD

Priya's breeding program has now resulted in the development of a cultivar that can be grown in harsh, soil-less environments, with an enhanced nutrient profile and health benefits. This could enable the production of high-quality berries in jurisdictions where berry growth is not currently possible. She is preparing to file a patent application for her proprietary work on the cultivar and has enrolled in the agritech accelerator program to develop a plan for maintaining the Intellectual Property (IP) associated with the cultivar. Priya is looking forward to the benefits that this breakthrough innovation will realize for other countries and is excited that the patent and establishment of the product will add to the long list of innovations attributed to B.C.'s strong agritech sector.

RECOMMENDATION 2:

ESTABLISH B.C. AS A GLOBAL AGRITECH LEADER BY SUPPORTING THE INNOVATION PATHWAY INCLUDING THE DEVELOPMENT, DEMONSTRATION, AND DEPLOYMENT OF NOVEL TECHNOLOGIES.

Actions:

- Harness the creativity of British Columbians in developing new and innovative agricultural technologies through an incubation-acceleration strategy which includes an incubator for agritech start-ups.
- Ensure alignment between the incubator-acceleration strategy and the broader agriculture and agritech agenda by having the incubator lead serve on the Expert Advisory Council.
- Stimulate demonstration of the most promising agricultural technologies in B.C. through:
  - Linkages between the agritech incubation-acceleration strategy and B.C.-based accelerators
  - Physical space and a streamlined regulatory framework to rapidly launch large scale agritech demonstration projects; and
  - Provincial funds that leverage other funding (e.g., industrial, venture capital, federal) and are aligned with provincial agritech priority areas.
- Develop a policy framework for the deployment of commercial agricultural technologies that embraces the UN SDGs and ensure access to appropriate provincial and federal resources that maximize industrial contributions.
- Facilitate provincial, federal, and international linkages to create innovation corridors between B.C. and key jurisdictions so that B.C. is central in the creation and commercialization of new agricultural products and technologies. For example, B.C. should leverage its position as the Asian gateway for agricultural commodities from across Western Canada and the US.

Key Performance Indicators (KPIs):

- Pipeline of agritech enterprises of varying sizes (e.g., start-ups, growth companies, revenue-generating businesses) across the province;
- Demonstration projects in B.C.;
- Food products available for local consumption and export to other jurisdictions;
- Venture capital funds attracted to B.C. agritech firms; and
- Revenue and employment generated by B.C. agritech firms.

8. ACADEMIA & TALENT

During our consultations, we met large numbers of young people interested in, or already involved with, agriculture or enthusiastic about getting into the sector. Many saw farming through the lens of emerging technologies, through changing farming practices to mitigate green-house gases, and the desire for healthy living.

At the same time, in all jurisdictions that aspire to national and global leadership in agriculture and agritech, we found that academia plays a foundational role. Leading academics help address challenges facing the sector, act as a neutral body for policy prescriptions and advance new thinking about future agricultural needs. Academia also trains the next generation of talent for the sector while providing critical platforms for skilling and re-skilling the existing workforce. From the University of Saskatchewan, to Guelph to Wageningen in the Netherlands, agricultural research was a critical component of the overall sector strategies.

This overwhelming interest from youth and the need for research leadership are instrumental in our recommendation to leverage higher education as part of an agri-tech strategy. B.C. is blessed with world-class research institutions and applied technical programs, but they are disjointed compared to those in leading jurisdictions. In nearly every area of importance to creating a world-class agritech sector, B.C. boasts significant expertise. Taking a leadership role in agritech will require a coordinated effort that pools expertise and effort across institutions to create vehicles for collaboration in research and training.

We came away impressed at the academic structures created elsewhere to support provincial and national agritech strategies. We believe it is imperative that we leverage the strength of our academic sector to create a collaborative institute model where common research priorities are identified and experts from across the province come together to address challenges. We recommend that this institute would also become the focal point for developing novel training programs for undergraduate and graduate students, ensuring the next generation is well versed in new technologies and methodologies. Importantly, the institute would act as a natural focal point for national and international linkages, ensuring that B.C. has access to leading academic thinking in the sector.

Investments in the academic sector, combined with the focus on an incubation strategy, will attract a critical mass of talent from throughout the province and other parts of the world (researchers, scientists, post-docs, graduate students, and thought leaders) to constantly infuse and re-infuse the generation of knowledge and ideas into the food and agriculture industry.

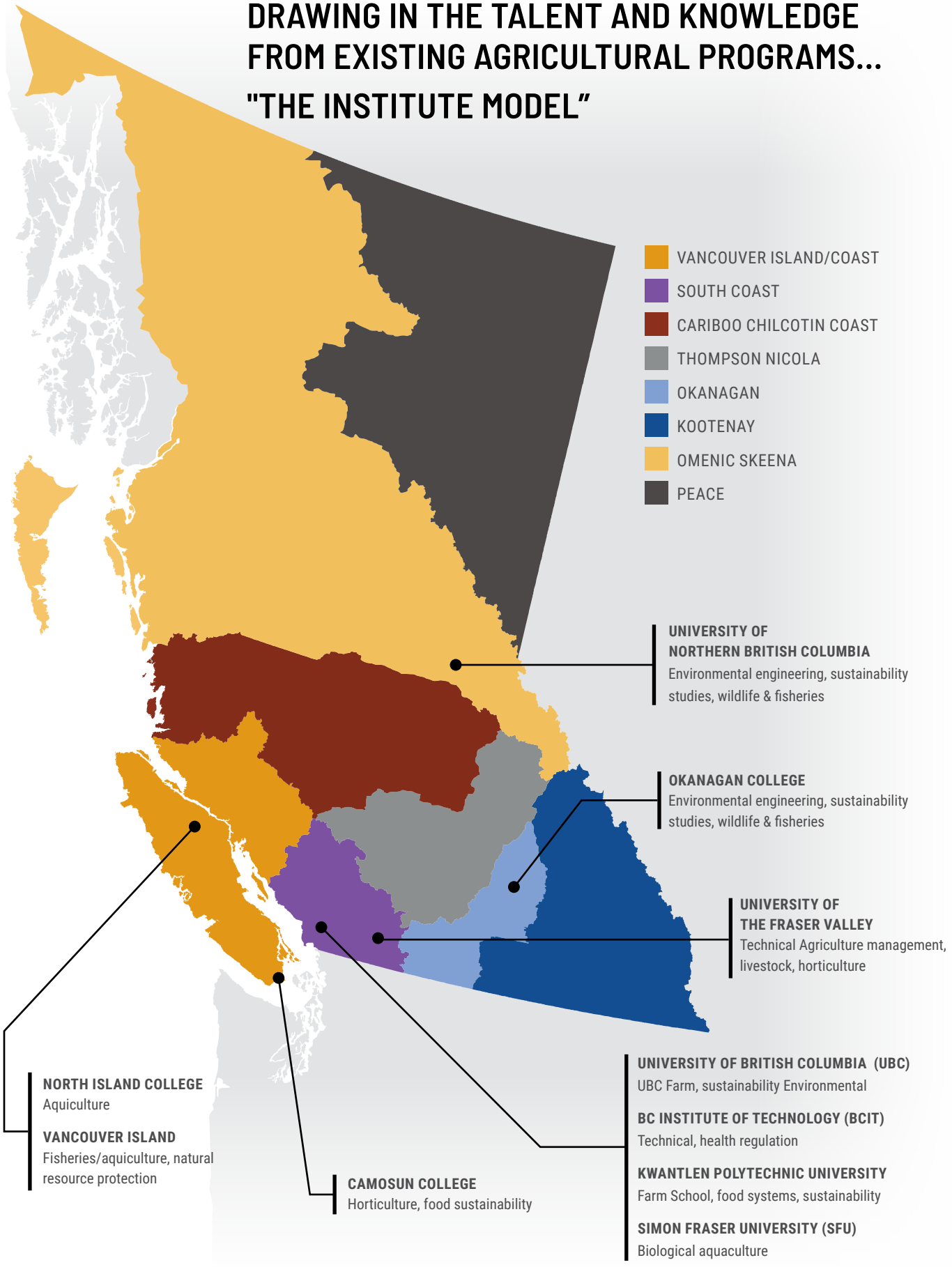
Though some of the leading jurisdictions centralize the vast majority of their agricultural programming at one institution, we do not advise that approach in British Columbia. The agricultural regions of the province are highly diverse, and the universities and colleges of British Columbia can support their region in achieving excellence. However, a vehicle for collaboration is needed and we suggest that the Institute can be that vehicle.

Training for mid-career agriculture workers will also be critical so they can seamlessly apply new technologies as these are introduced. The institute model would allow rapid identification of such skills needs and ensure timely and relevant program delivery. Programming must also be inclusive so that it reaches all ages, regions, and demographics thus allowing the broadest possible participation in the agritech economy. The reality is that as agriculture becomes a technology driven sector, the farmer of the future will also require the skills of a mathematician (to analyze data) and of an engineer (to optimally deploy new technologies).

Done right, this new model of collaboration and coordination would address a gap in the current academic agritech space, namely the distribution of talent through the province making it difficult to address research and training of highest need. And finally, coordinating and leveraging B.C. research dollars through the institute can make a serious impact.

DRAWING IN THE TALENT AND KNOWLEDGE FROM EXISTING AGRICULTURAL PROGRAMS...

"THE INSTITUTE MODEL"



RECOMMENDATION 3:

CREATE AN AGRICULTURE AND AGRITECH INSTITUTE AS A COLLABORATIVE ENTITY ACROSS POST-SECONDARY INSTITUTIONS TO DRIVE EXCELLENCE IN PRIORITY AREAS AND DEEPEN THE KNOWLEDGE BASE AND TALENT POOL FOR THE AGRICULTURE INNOVATION AGENDA.

Actions:

- Create an agriculture/agritech institute that draws on expertise from B.C. post secondary institutions (universities and colleges) and prioritizes training, cutting-edge research and development, acts as a policy think tank, and links to national and international academic networks, all in support of the provincial agriculture agenda.
- Mandate and resources the Institute to:
  - Perform world-class research and development in areas identified as being critically important to the province;
  - Provide advice to government on agriculture and agritech policies, particularly those related to the UN SDGs;
  - Link with the provincial agritech incubator-accelerator strategy to support new enterprises while also ensuring start-ups are aware of international developments in the agritech arena;
  - Act as a gateway for aggregating work-integrated learning opportunities across post-secondary institutions for undergraduate and graduate students;
  - Build research collaborations to build upon multiple funding streams through federal, local and industry partnerships; and
  - Develop targeted programs focused on creating the skills and talent needed to support the future of agriculture and agritech.

Key Performance Indicators (KPIs):

- Participation across post-secondary institutions in the institute;
- Graduate programming that cuts across post-secondary institutions; and
- Experiential and work-integrated learning opportunities.

9. STRATEGIC LAND USE & INDUSTRY DEVELOPMENT

The Agricultural Land Reserve (ALR) has been at the centre of agricultural land use planning in British Columbia for nearly half a century and will continue to play a central role in the development of agriculture and agritech in British Columbia. The ALR and the Agricultural Land Commission Act that established it has changed and evolved over time along with the agriculture industry. The ALR was established at a time when policies to control urban sprawl were being implemented or expanded in regions around the world; British Columbia recognized that agriculture needs a place to grow.

Bill 42, the Land Commission Act, was one of the most ambitious provincial zoning acts in Canadian history. The bill passed on April 18th, 1973, establishing a land commission with the power to purchase land for four different kinds of land reserve: an agricultural reserve, a greenbelt reserve, a residential land bank, and an industrial land bank. The commission was also given the power to create a series of agricultural reserves through zoning alone. The Minister of Agriculture described the purposes of the act as follows (Smith, 2012):

1. To curtail the loss of prime farmland
2. To ensure the benefits of improvements such as drainage went to farmers
3. To ensure a local food supply
4. To reinforce the work of other preservation groups
5. To help young people enter farming
6. To create green belts around urban areas
7. To bank land for future development including potential industrial areas

The reserves, as they were called, were initially determined by the provincial government through the Agricultural Land Commission with input from municipal governments, who submitted plans to the commission for consideration. To do this, the commission drew on wartime aerial photos and the Canada Land Inventory (CLI), a survey of agricultural capacity [cite Smith 2012]. The CLI's existence lent much needed scientific credibility to the reserves.

Two other factors went into the formation of the agricultural land reserves. The Land Commission included some land of poor agricultural capacity to prevent fragmentation of the land base in order to avoid pockets of farmland and development intermingling, which had been shown to decrease agricultural viability. Municipalities were also asked to plan for enough industrial, commercial and residential expansion space to last at least five years. Once all the plans were complete, the ALRs came into force in the mid 1970's. Very quickly, the commission began talking about the reserve as a single provincial whole, what we now know as the ALR. Additionally, some land was purchased outright and leased to farmers on twenty-year leases. In the Lower Mainland, the ALR covered one quarter of the available land and closer to half of the relatively flat land in the Fraser Basin. At the time no real plans were developed for what would happen if and when the banked industrial and residential lands were exhausted.

British Columbia has the potential to be a leader in the area of agricultural technology; however, a lack of available flexibly-zoned land has created a bottleneck for scaling this new area of the economy. To relieve this bottleneck, the committee recommends that up to a quarter of a percent (0.25%) of the ALR be made available for agricultural-industrial activities at the discretion of a commissioner of agricultural-industrial lands to be created to oversee the province's agricultural industrial land strategy.

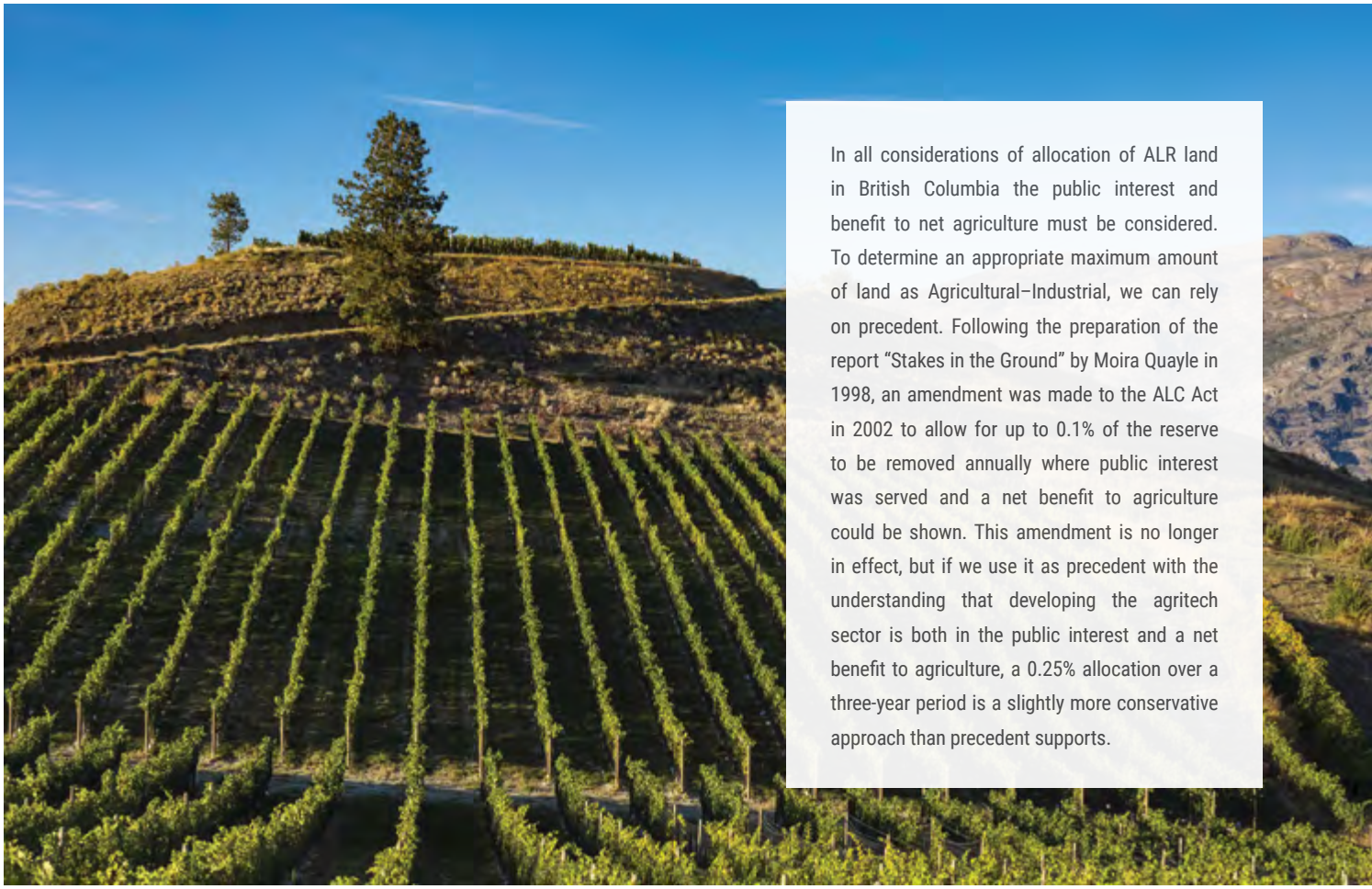
Creating a dedicated area for agricultural-industrial activity will give businesses in food and agritech a strategic place to locate and will invite the growth of the industry. Currently, agri-industrial businesses need to compete with other industrial businesses to operate on industrial land. There is also a pronounced shortage of industrial land within the lower mainland. This is compounded by the existing regulations which do not allow for large scale processing (unless fifty percent of materials are grown on site), or concrete bottom agriculture (which would support indoor growing). Activities such as technology development or manufacturing would also not be compliant with permissible uses on ALR land.

During engagement, the Task Force heard that development of the agritech opportunity is not likely to occur without enhanced flexibilities for agri-industrial activities to occur within the ALR. The creation of the new zone would encourage the clustering of companies in areas that would be in proximity to agricultural "living labs". Currently, some of the most successful agritech companies are located in more urban areas such as North Vancouver, downtown Vancouver and Kelowna. By identifying and inviting companies to the agri-industrial zone, this will encourage the development of companies that are a part of the agricultural sector, rather than the technology sector writ large, increasing the likelihood that applied technologies with real relevance to the sector will be developed and creating the space for this companies to co-locate and intermingle in a cluster model.

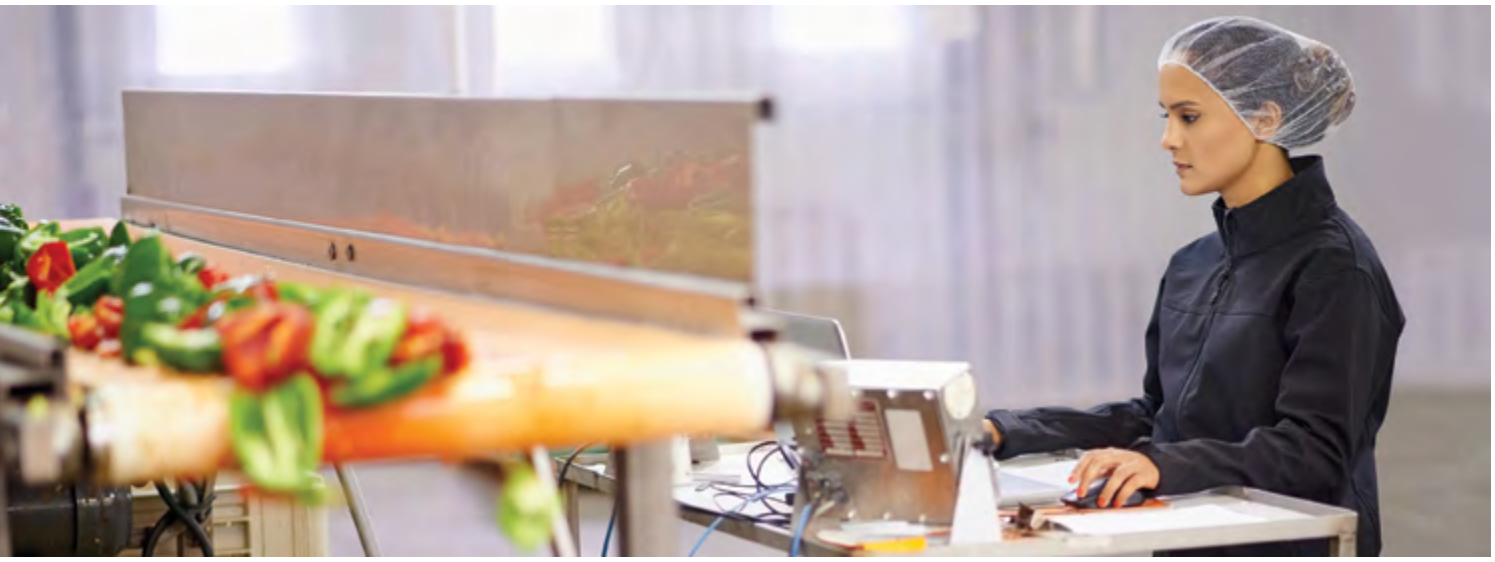
In addition to creating a place for agritech companies to locate and grow, the new zone will support new economic growth from a value-added agriculture and processing sector. Currently, processing can only occur within the ALR if at least 50 per cent of the product being processed has been grown within B.C. By creating more flexibility around what can be processed and where, B.C. has a much greater potential of realizing the ambitious targets that have been identified for food processing nationally (Barton, 2017).

While there are some places in the province where there is an existing industrial land supply to support the development of agritech and value-added industry, creating a dedicated zone will create an optimal clustering effect and support strategic land use. In areas of the province where there is existing industrial space for ag-industrial, there is no requirement to create the new zone, or for industry to locate within the zone should they prefer an available piece of industrial land.

By creating a new zone that is intended to support activities that will support the agriculture and food industries achieve their maximum potential, B.C. would be taking a bold approach to take a targeted/pronounced step towards establishing a strong, globally recognizable agritech industry. This process must be approached with the same care an attention that has been shown over the last half century of agricultural land management in British Columbia.



In all considerations of allocation of ALR land in British Columbia the public interest and benefit to net agriculture must be considered. To determine an appropriate maximum amount of land as Agricultural–Industrial, we can rely on precedent. Following the preparation of the report "Stakes in the Ground" by Moira Quayle in 1998, an amendment was made to the ALC Act in 2002 to allow for up to 0.1% of the reserve to be removed annually where public interest was served and a net benefit to agriculture could be shown. This amendment is no longer in effect, but if we use it as precedent with the understanding that developing the agritech sector is both in the public interest and a net benefit to agriculture, a 0.25% allocation over a three-year period is a slightly more conservative approach than precedent supports.



RECOMMENDATION 4:

ENSURE THERE IS A PLACE TO GROW FOOD AND SUPPORT EMERGING AGRITECH INDUSTRIES BY EXAMINING LAND USE POLICIES AND OTHER REGULATORY CONSIDERATIONS.

Actions:

- Allocate up to a maximum of 0.25% of the Province's Agricultural Land Reserve (ALR) for a broader category of use essentially categorized as agricultural-industrial. Factors in siting this land include lower soil classification (class 4-7 only), proximity to existing transport corridors and services, and potential for clustering agri-industrial uses near other non-agricultural zones.
- Review allocations and selection factors for allocated zones every three years to ensure appropriate land use and space designations and to assess if the new agricultural-industrial designation has achieved the intended outcomes of increasing investment and developing the agriculture and agritech industries.
- Establish a Commissioner for Agri-Industrial Lands mandated to:
    - Establish and oversee the new zones in consultation with potential land holders, municipal governments and the Province, including the intended industrial lands inventory;
    - Spur rapid establishment of agritech and agri-innovation enterprises, to attract companies that align with agri-industrial vision to these new zones of opportunity, and to ensure the process to relocate or establish in a new zone is seamless; and
    - Create a consultation process with the Agricultural Land Commission (ALC) in areas of mutual interest.
- Encourage maximum uptake and productivity on the newly classified land by considering regulatory or policy instruments that can be used to catalyze industry growth.

Key Performance Indicators (KPIs):

- Rules, regulations, and process for determining new agricultural industrial zones established;
- Independent commissioner appointed;
- Process for selection, approval, and monitoring of projects on new zones established;
- Evaluation of project outcomes and alignment of projects to provincial priority areas; and
- Monitoring of zoning over time to ensure alignment with agritech industry growth.

10. APPENDICES

A. List of stakeholders engaged by the Food Security Task Force

B. Reference and video library

APPENDIX A. LIST OF STAKEHOLDERS ENGAGED BY THE FOOD SECURITY TASK FORCE

Industry & Business Associations/Non-Profit Organizations

DATE	LOCATION	ORGANIZATION	REPRESENTATIVE
July 27	Victoria, BC	AgFunder	Rob Leclerc, CEO
Aug 27	Vancouver, BC	BC Food and Beverage	James Donaldson, CEO
Aug 27	Vancouver, BC	Small Scale Food Processors Association	Candice Appleby, Executive Director
Aug 27	Vancouver, BC	Genome BC	David Charest, Senior Manager, Agrifood and Natural Resources; Quinn Newcomb, Executive Director, Corporate Development; Lisey Mascarenhas, Sector Director, Agrifood and Natural Resources
Aug 27	Vancouver, BC	BC Agricultural Council	Reg Ens, Executive Director; Stan van der Waal, Chair
Sept 16	Saskatoon, SK	Protein Industry Supercluster	Tiffany Stephenson, Chief Marketing Manager; Meghan Gervais, Intellectual Property Manager
Sept 26	Kelowna, BC	BC Cherry Association	Sukhpaul Bal, President
Sept 26	Kelowna, BC	BC Fruit Growers	Glen Lucas, General Manager
Sept 26	Kelowna	BC Fruit Packers Co-op	Gary Heintz, CEO
Oct 7	The Hague, NL	FME Agri & Food / FME-GMV (Dutch Food Systems)	Moniek Gunnewiek, International Business Manager
Oct 8	Wageningen, NL	Topsector Agri & Food	Willemien van Asselt, International Coordinator
Oct 8	Wageningen, NL	Food Valley	Wouter de Heij, CEO
Nov?	Ottawa, ON	Bioenterprise	Dave Smardon, CEO
Nov 28	Vancouver, BC	BC Business Council	Greg D'Avignon, President & CEO; Ken Peacock, Executive Vice President & Chief Policy Officer
Nov 28	Vancouver, BC	Foresight Accelerator	Jeanette Jackson, CEO; Catriona Power, Director, Cluster Initiative
Nov 28	Vancouver, BC	BC Fruit Growers	Pinder Dhaliwal, President; Peter Simonsen, Vice President
Dec 17	Vancouver, BC	Business Council of Canada	Goldy Hyder, President & CEO
Dec 17	Vancouver, BC	Greater Vancouver Board of Trade	David Crawford, Vice President
Dec 17	Vancouver, BC	David Suzuki Foundation	Stephen Cornish, CEO; Tom Green, Policy Analyst

Companies/Farmers

DATE	LOCATION	ORGANIZATION	REPRESENTATIVE
Aug 12	Abbotsford, BC	Vitalus	Elena Middlemass, Manager, Corporate Initiatives
Aug 12	Delta, BC	Windset Farms	John Newell, COO
Aug 12	Pitt Meadows, BC	Cubic Farms	Dave Dinesen, CEO; Jo-Ann Ostermann, VP-Lead Produce
Aug 12	Vancouver, BC	Terramerra	Karn Manhas, CEO; Steve Slater, VP; Laura McIntyre, Communications Director
Aug 13	North Vancouver, BC	Ecoation Innovation Solutions	Saber Miresmailli, CEO
Aug 14	Courtenay, BC	Amara Farms	Arzeena Hamir & Neil Turner, Owners
Aug 14	Courtenay, BC	Eatmore Sprouts	Carmen Wakeling, Owner; Ryan Powell, GM
Aug 14	Courtenay, BC	Tree Island Dairy	Scott DiGustini & Merissa Myles, Owners
Sept 26	Lake Country, BC	Coral Beach Farms	Gale Krahn, Horticulture Manager
Sept 26	Kelowna, BC	SunRype	Lynn Heinrich, Business Development/Marketing Manager for US markets
Sept 26	Kelowna, BC	Sun City Cherries	Gordon Sandhu, Owner
Sept 26	Kelowna, BC	FloraMaxx Technologies	Ashish Dave, President & CEO
Sept 26	Armstrong, BC	Fieldstone Organics	Tony Van Den Tillaart, GM
Sept 26	Kelowna, BC	Summerhill Pyramid Winery	Gabe¬¬ Gipes, VP (also director of BC Organics Association)
Sept 26	Kelowna, BC	Little Creek Dressing	Donna Denison, Owner
Oct 8	The Hague, NL	Bioprocess Pilot Facility (BPF)	Raimo van der Linden, Business Development Manager
Oct 8	The Hague, NL	World Horti Center	Joep Hendricks, Director
Oct 9	Wageningen, NL	Delphy	Jeroen van Buren, Manager, Consultancy and Education
Dec 10	Fort St. John, BC	BC Cattlemen's Association	Dave Harris & Helen Harris, board members
Dec 10	Fort St. John, BC	BC Grain Producers Association	Jennifer Critcher, director
Dec 10	Fort St. John, BC	Northern Co-hort Peace River Forage Association of BC	Bess Legault, program coordinator
Dec 10	Fort St. John, BC	BC Haskap Association	Darren Shankel, Vice President
Dec 10	Fort St. John, BC	Peace Region Forage Seed Association	Tobin Dirks & Blair Hill, directors
Dec 10	Fort St. John, BC	South Peace Grain Clean Co-op	Jocelyn Shuman, marketing & administration
Dec 10	Fort St. John, BC	City of Fort St. John	Lori Ackerman, Mayor
Dec 10	Fort St. John, BC	Peace River Regional District	Brad Sperling; Karen Goodlings; Tony Zabinsky; Rob Fraser; Keith Bertrand; Leonard Hiebert – elected directors
Dec 10	Fort St. John, BC	Sweetwater Parkland Farmer's Institute	Brian Durfler; Jim Strasky
Dec 16	Williams Lake, BC	Artique Farm (dairy)	Thomas Winker, owner
Dec 16	Williams Lake, BC	Beef producer	Krista Pooley
Dec 16	Williams Lake, BC	Cow/calf producer	Chad Seelhof
Dec 16	Williams Lake, BC	Livestock producer	Wiley Bystedt
Dec 16	Williams Lake, BC	Puddle produce (vegetables)	Brianna van de Wijngaard, owner
Dec 16	Williams Lake, BC	Cariboo Cattlemen's Association	Angela Abrahao, coordinator

Government

DATE	LOCATION	ORGANIZATION	REPRESENTATIVE
Aug 27	Vancouver, BC	Western Economic Diversification	Gerry Salembier, Assistant Deputy Minister; Grace Kim, Regional Director, Agriculture Canada
Sept 16	Saskatoon, SK	Western Economic Diversification	Jalil Abdul, Assistant Deputy Minister
Sept 16	Saskatoon, SK	Saskatchewan Industry	Dan Prefontaine, President; Erin Hiebert, Manager, Food Food Development Centre (Food Centre) Safety & Skills
Sept 19	Ottawa, ON	Department of Finance	Paul Rochon, Deputy Minister
Sept 19	Ottawa, ON	Agriculture and Agrifood Canada	Tom Rosser, Assistant Deputy Minister
Sept 19	Ottawa, ON	Innovation, Science and Economic Development Canada	Sheryl Groeneweg, Director General

Sept 26	Kelowna, BC	Regional District of Central Okanagan	Stephanie Slaman, Business Development Officer
Oct 7	The Hague, NL	Canadian Embassy and Trade Commissioners of the Netherlands	Sameena Qureshi, Senior Trade Commissioner
Oct 7	The Hague, NL	Ministry of Agriculture, Nature and Food Quality	Guido Landheer, Vice Minister
Nov 28	Vancouver, BC	Trade Commissioner of Canada in India	Nadir Patel, Trade Commissioner
Jan 8	Victoria, BC	Food and Agriculture Organization of the United Nations Office for North America	Thomas Pesek, Senior Liaison Officer
Jan 8	Victoria, BC	Food and Agriculture Organization	Florian Doer, Associate Professional Officer of the United Nations Office for North America

Post-Secondary Institutions/Research Bodies

DATE	LOCATION	ORGANIZATION	REPRESENTATIVE
Sept 16	Saskatoon, SK	The Global Institute for Food Security	Steven R. Webb, Executive Director and CEO
Sept 20	Guelph, ON	Elora Research Station (Dairy, Beef and Crop Science)	Dr. Malcolm Campbell, VP of Research
Sept 20	Guelph, ON	University of Guelph	Dr. Rebecca Hallett, Professor, School of Environmental Sciences, and Associate Dean (Research and Graduate Studies), Ontario Agricultural College (OAC); Dr. David Ma, Professor and University Leadership Chair, Human Health & Nutritional Sciences, College of Biological Science, Director, Guelph Family Health Study; Dr. Kate Parizeau, Professor, Geography, Environment, & Geomatics, College of Social and Applied Human Sciences
Sept 20	Guelph, ON	University of Guelph	Meat Lab, various
Sept 20	Guelph, ON	University of Guelph Arrell Food Institute	Dr. Evan Fraser, Professor, Canada Research Chair in Global Food Security and Director of Arrell Food Institute; Dr. Maria Corradini, Professor and Arrell Chair in Food Quality; Alice Raine, Director, Operations, Arrell Food Institute
Sept 20	Guelph, ON	University of Guelph	Dana McCauley, New Venture Creation, Research Innovation Office; Jeanna Rex, Graduate Studies, Arrell Food Institute
Sept 27	Summerland, BC	AAFC Summerland Research Centre	Jesse MacDonald, Knowledge and Technology Transfer Specialist
Oct 8	Wageningen, NL	Wageningen University, Startlife and East Netherlands Development Agency	Susan van Boxtel, Manager, Food, Health International, Oost; Loet Rammelsberg, Project Director, Startlife; Matthijs Montsma, Programme Manager, Postharvest Quality
Nov 28	Vancouver, BC	Academic Roundtable – various post-secondary institutions	Tammara Soma, David Hik & Eugene Fiume, Simon Fraser University; Rebecca Harbut, Wallapak Polasub & Kent Mullinix, Kwantlen Polytechnic University; Rickey Yada, University of British Columbia; Lucy Lee, University of the Fraser Valley; Rebecca Robertson, British Columbia Institute of Technology

Political Entities

DATE	LOCATION	ORGANIZATION	REPRESENTATIVE
July 27	Victoria/Vancouver Island	BC Green Party	Adam Olsen, MLA

APPENDIX B: REFERENCE AND VIDEO LIBRARY

The following references provide context, examples and inspiration for the work of the Food Security Task Force.

CANADA'S AGRICULTURE SECTOR:

TITLE: Unleashing the Growth Potential of Key Sectors (the Barton Report), 2017
SOURCE: Advisory Council on Economic Growth
LINK: https://www.budget.gc.ca/aceg-ccce/pdf/key-sectors-secteurs-cles-eng.pdf

TITLE: Lets Seize This Historic Opportunity in Our Agriculture Sector, 2019
SOURCE: Policy Options, John Stackhouse
LINK: https://policyoptions.irpp.org/magazines/september-2019/lets-seize-this-historic-opportunity-in-our-agriculture-sector/

TITLE: Farmer 4.0 – How the coming skills revolution can transform agriculture, 2019
SOURCE: RBC Thought Leadership
LINK: http://www.rbc.com/economics/economic-reports/pdf/other-reports/Farmer4_aug2019.pdf

KEY THEME CONTENT:

TITLE: UN General Assembly 2019: Speaker schedule and what to export, 2019
SOURCE: Aljazeera News
LINK: https://www.aljazeera.com/news/2019/09/general-assembly-2019-speaker-schedule-expect-190922192946048.html

TITLE: UN 2030 Agenda for Sustainable Development, 2015
Source: United Nations
LINK: https://sustainabledevelopment.un.org/post2015/transformingourworld

TITLE: UN Sustainable Development Goals, 2015
SOURCE: United Nations
LINK: https://sustainabledevelopment.un.org/?menu=1300

TITLE: The State of Food and Agriculture, 1996
SOURCE: Food and Agriculture Organization of the United Nations
LINK: http://www.fao.org/3/w1358e/w1358e.pdf

TITLE: World Agriculture Towards 2030/2050, 2012
SOURCE: Food and Agriculture Organization of the United Nations
LINK: http://www.fao.org/3/a-ap106e.pdf

TITLE: Report of the Country Life Commission, 1909
SOURCE: Washington Government Printing Office
LINK: https://www.youtube.com/watch?v=VxRNoSSkLkE

AGRITECH / URBAN FARMING EXAMPLES

TITLE: A WWII bunker under London's streets is now a vegetable farm, 2019

SOURCE: CBC News, Victoria Belton

LINK: https://www.cbc.ca/news/technology/a-ww-ii-bunker-under-london-s-streets-is-now-a-vegetable-farm-1.5372047

TITLE: What is vertical farming? What are the benefits? 2019

SOURCE: Pioneers for our Planet, Youtube

LINK: https://www.youtube.com/watch?v=_5_COI_L4yY

TITLE: Umami-driven farm-to-plane food has arrived on Singapore Airlines, 2019

SOURCE: CNN Travel, Shivani Vora and Stacey Lastoe

LINK: https://www.cnn.com/travel/article/singapore-airlines-aerofarms/index.html

TITLE: Gotham Greens opens large greenhouse in Chicago, 2019

SOURCE: The Packer, Tom Karst

LINK: https://www.thepacker.com/article/gotham-greens-opens-large-greenhouse-chicago

TITLE: Kimbal Musk's Farm of the Future, 2018

SOURCE: BEME News, Youtube

LINK: https://www.youtube.com/watch?v=VxRNoSSkLkE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The Future of B.C.'s Food System

Response to Findings & Recommendations of the B.C. Food Security Task Force

Prepared by:

The Institute for Sustainable Food Systems
at Kwantlen Polytechnic University

KPU | Institute for Sustainable Food Systems

KPU | Institute for Sustainable Food Systems

The Institute for Sustainable Food Systems (ISFS) is an applied research and extension unit at Kwantlen Polytechnic University that investigates and supports sustainable agriculture and regional food systems as key elements of sustainable communities.

We focus predominantly on British Columbia but also extend our programming to other regions. Our applied research focuses on the potential of regional food systems in terms of agriculture and food, economics, community health, policy, and environmental integrity. Our extension programming provides information and support for farmers, communities, business, policy makers, and others. Community collaboration is central to our approach.

www.kpu.ca/isfs

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Suggested Citation: Hansen, E., N. Robert, M. Bomford, R. Harbut, and K. Mullinix. *Response to the Findings & Recommendations of the B.C. Food Security Task Force*.Richmond, British Columbia: Institute for Sustainable Food Systems, Kwantlen Polytechnic University, 2020.

PREFACE

Sustainability- living in ways that do not compromise future generations ability to do the same- is imperative and likely the greatest challenge humanity has ever faced. We must learn how to live on and with Mother Earth without destroying her, and in the process destroying the very foundation of our existence. The ability of our children, grandchildren and generations beyond, to live healthy, happy and fulfilling lives depends upon it. This is not hyperbole. As we stand at the crossroads, Mother Earth is warning us loudly and clearly to read the signs. Signs such as the rampant collapse of marine and terrestrial ecosystems (half of the Great Barrier Reef has died since 2016[1]), the erosion of biodiversity (we are undergoing the Earth's sixth major extinction event[2]) and climate change. All of these are threatening the wellbeing of humans and ecosystems at an unprecedented scale. As such, it is vital that citizenry and their governments everywhere critically examine the basis and outcomes of their economies. Is a continued and singular focus on economic growth, predicated on the liquidation of earth's resources, sensible? Does the path to human sustainability lie in doing more of the same or altering course?[3] We must engage in the hard, soul-searching work of answering these questions and taking appropriate action.

Undoubtedly, our food system is a foundation of our economy and a necessity for humanity's survival. Without a sustainable food system, there is no sustainable future. Therefore, we at the Institute for Sustainable Food Systems are grateful and encouraged that the government of British Columbia is focused on the challenge of bringing forth a sustainable food system in our province. We know, by virtue of our work, that a great many in the province share this concern and are working diligently and dedicatedly to address it.

The government of British Columbia appointed the B.C. Food Security Task Force to examine and provide recommendations for the development and use of technology to support food security and the economic growth of B.C.'s agricultural sector. It did so under the pretext that agritech solutions can effectively address the United Nations Sustainable Development Goals. The report emanating from this study, The Future of B.C.'s Food System, was released January, 2020. While it is commendable that the government of B.C. is concerned with and seeks to understand the challenge of advancing sustainable food systems, the suppositions and conclusions put forth in this report compels us to respond. Suffice it to say the report's myopic focus on technology as the means to achieve BC's sustainable food system future strikes us as insufficient, and in many ways antithetical. Therefore, the objective of this response is to present additional, substantiated information that was overlooked in the report, and must be brought into the calculus. We also present alternate perspectives that call into question the extent to which technology can or should be relied upon to contribute to our food system future. We conclude that the vision presented by the B.C. Food Security Task Force simplistically conjectures the ability of agritech to address the most complex food system challenges.

1 National Geographic.(2018). Half of the Great Barrier Reef is Dead. https://www.nationalgeographic.com/magazine/2018/08/explore-atlas-great-barrier-reef-coral-bleaching-map-climate-change/

2 Ceballos, G., Ehrlich, P. R., & Dirzo, R. (2017). Biological annihilation via the ongoing sixth mass extinction signaled by vertebrate population losses and declines. Proceedings of the National Academy of Sciences, 114(30), E6089 LP-E6096. https://doi.org/10.1073/pnas.1704949114

3 Rees, W. E. (2019). Why Place-Based Food Systems? Food Security in a Chaotic World. Journal of Agriculture, Food Systems, and Community Development, 9(A), 5-13. https://doi.org/10.5304/jafscd.2019.091.014

Food system sustainability, given all of its dimensions, is the epitome of a complex problem that calls for extensive, critical examination so that the impact of any actions are comprehensively considered. Undoubtedly, an effective solution to food system and human sustainability challenges must consider many dimensions. There will be no single, easy answer. As a society, we have become enamored with technology, and by extension wealth creation, without examining the consequences such as who is benefiting and at what cost to others. This has become our default solution to many complex challenges. Such thinking can obscure and lead us away from the fundamental shifts that must be undertaken to achieve our sustainable future.

Our sustainable food system strategy should not be based on a singular line of thinking, especially, it seems, the one that has contributed so greatly to this conundrum in the first place. While technology will surely play a role in our sustainable food system future, it must be acknowledged that technology has often proven to have significantly adverse consequences. Many adopted agricultural technologies that now form the basis of our dominant food production paradigm have exacted their price. For example, extensive use of tillage equipment and synthetic nitrogenous fertilizers are highly detrimental to soil conservation and health. Similarly, the widespread use of synthetic broad-spectrum insecticides has exacerbated the pest problem, and the advent of genetically modified (Round-up Ready) crops has increased the use of the herbicide glyphosate (Round-up), a probable carcinogen[4] of which our dietary intake is increasing.[5][6] It is very important that the technologies we adopt to 'solve' one problem do not, as is so often the case, create more.

Thus, a singular focus and dependence on technological remedy cannot be thoughtfully advised. We urge the government of British Columbia to engage in a far more robust and comprehensive examination of the challenge of food system sustainability- economic, environment, social- and devise more thoughtful, comprehensive strategies than those presented in the Task Force's report. Herein, we provide additional information and perspective around the challenge of a sustainable food system future in British Columbia, and what might be more appropriate to reach that goal.

Lastly, we of the Institute for Sustainable Food Systems are ready and willing to support the people and government of British Columbia to fully understand our food system challenge, and to effectively advance a genuinely sustainable food system future. It is in this spirit and intent that we offer this response.

Kent Mullinix, PhD
Director, Institute for Sustainable Food Systems
Kwantlen Polytechnic University
March 8, 2020

4 IARC. Q&A on glyphosate. 2016. https://www.iarc.fr/wp-content/uploads/2018/11/QA_ Glyphosate.pdf

5 Mills PJ, Kania-Korwel I, Fagan J, McEvoy LK, Laughlin GA, Barrett-Connor E. Excretion of the Herbicide Glyphosate in Older Adults Between 1993 and 2016. JAMA. 2017;318(16):1610–1611. doi:10.1001/jama.2017.11726

6 Guyton KZ, Loomis D, Grosse Y, etal. International Agency for Research on Cancer Monograph Working Group, IARC, Lyon, France. Carcinogenicity of tetrachlorvinphos, parathion, malathion, diazinon, and glyphosate. Lancet Oncol 2015;16:490-1. 10.1016/S1470-2045(15)70134-8 25801782

INTRODUCTION

In it's report *The Future of B.C.'s Food System* (B.C. Food Security Task Force [BCFSTF], 2020), the B.C. Food Security Task Force (the Task Force) provides recommendations for supported development and use of technology and innovation to strengthen B.C.'s agriculture sector, grow the economy, and ostensibly address the UN's Sustainable Development Goals (SDGs). The recommendations center on the potential of the agritech sector to increase food security, improve climate change mitigation and adaptation, boost local food availability, and increase profitability for farmers. While technological advances certainly play a role in improving agricultural practices and adaptations, we caution that a strategy narrowly focused on the development of the agritech sector and an agritech focused food system has limited capacity to meaningfully, and likely appropriately, achieve these outcomes. We believe that substantially addressing food security, local food availability, climate change adaptation and mitigation, and food system productivity and profitability would benefit from a more comprehensive consideration of food system dynamics beyond the agritech sector, as well as a more thoughtful consideration of regionally-adapted technologies that address current needs within the agriculture and food systems. Additionally, we caution that a narrowly-focused agritech vision can overlook other critical avenues of support for ongoing initiatives, and policy development that, if pursued, could more meaningfully and genuinely advance these goals. In this response we;

- **PART 1:** Question the capacity of agritech to meaningfully increase food security, mitigate and adapt to climate change, boost local food availability, and increase profitability for farmers, as proposed by B.C.'s Food Security Task Force,
- **PART 2:** Suggest additional areas of needed policy attention to more directly increase food security, mitigate and adapt to climate change, boost local food availability, and increase productivity and farm profitability.

PART 1

The capacity of an expanded agritech sector to achieve the outcomes outlined by the B.C. Food Security Task Force is uncertain, and potentially limited.

In this section, we raise concerns that an agritech focused food system, as proposed by the B.C. Food Security Task Force in the *Future of B.C.'s Food System*, has limited capacity to meaningfully achieve the proposed food system outcomes, namely:

1. **Increase Food Security**: The scope of the B.C. Food Security Task Force report disregards the primary cause of food insecurity for most British Columbians - poverty and economic inequality.
2. **Improve Climate Change Mitigation and Adaptation:** Potential contributions of the agritech sector to climate change mitigation and adaptation over time are unexamined and unsubstantiated.
3. **Boost Availability of Locally-Produced Food for B.C. Resident**s: The relationship between agritech, increased productivity for global markets, and the increased availability of local food for British Columbians is unclear and unsubstantiated.
4. **Increase Profitability for Farmers:** Increased productivity, through the adoption of capital-intensive technologies does not directly, or necessarily increase profitability and prosperity for farmers and other food system stakeholders.

1. **Increase Food Security:** The scope of the B.C. Food Security Task Force report disregards the primary cause of food insecurity for most British Columbians - poverty and economic inequality.

The mandate of the B.C. Food Security Task Force was to *"make recommendations that support food security and the economic growth of the agricultural sector in British Columbia"* (BCFSTF, 2020, *p.9)*. However, the scope and recommendations of the Task Force's report is notably focused on advancing the profitability and competitiveness of the agritech sector, conspicuously omitting the primary cause of both local and global food insecurity - poverty and economic inequality. While technological advances can improve agricultural practices and efficiencies, it is important to recognize the proven primary drivers of food (in)security and the limited capacity of agritech to address these. As the Task Force identified, food security exists when *"all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life"* (World Food Summit, 1996). Acknowledging this to be true, the report does not address issues that fracture food security. For example, in BC and Canada, poverty is overwhelmingly the cause of food insecurity (Food Insecurity Policy Research [PROOF], 2018). Long-term research investigating food insecurity in Canada estimates that approximately 10% of Canadians live with food insecurity because of financial constraints. In 2012, approximately 13% of households in B.C. experienced food insecurity due to economic barriers (Tarasuk, Mitchell & Dachner, 2014). This reality emphasizes the connection between improving household financial circumstances and improving food security (Dachner et

al., 2016), and, importantly, calls for food security strategies that address the root causes of poverty and economic inequality. These important considerations are omitted in assertions that "*Technology can enhance our domestic food security"* (BCFSTF, 2020, pg. 22). There may be an underlying assumption here that agritech will allow for the production of food to be so much cheaper that even those that live in poverty will have equal access to food. Regardless of the unclear potential for agritech to reduce food prices, it is important to note that currently, the cost of food in Canada is already amongst the lowest in the world (~10% of income) and yet food insecurity persists (Gray, 2016).

Presently, the global food system produces more than enough food to feed the global population, yet more than one in 10 people around the world live with food insecurity.

Presently, the global food system produces more than enough food to feed the global population (Alexandratos & Bruinsma, 2012; Holt-Giménez et al., 2012), yet more than one in 10 people around the world live with food insecurity (FAO, IFAD, UNICEF, WFP & WHO, 2019). In fact, ***per capita*** global food production has increased by 30% since 1961 (Mbow et al., 2019). Still food insecurity persists as a critical public health issue in both developed and developing countries, even rising in recent years (FAO, IFAD, UNICEF, WFP & WHO, 2019) despite increases in food production. These trends emphasize that increasing global food production alone is not an effective strategy to improve food security. Poverty and economic inequality, not scarcity, have been clearly identified as the drivers of chronic food insecurity, calling into question the capacity of agritech investment and associated aspirations for increased production to meaningfully address food insecurity, both within B.C. and beyond.

SUMMARY: We question the characterization of agritech investments as a meaningful strategy to address food security, which is overwhelmingly caused by poverty and economic inequality, both locally and globally. As such, we question the capacity of agritech innovations, and any associated aspirations to increase production, as an appropriate strategy to address the Sustainable Development Goal to end hunger and achieve food security (SDG2).

2. **Improve Climate Change Mitigation and Adaptation:** Potential contributions of the agri-tech sector to climate change mitigation and adaptation over time are unexamined and unsubstantiated.

The B.C. Food Security Task Force raises a need to develop the agritech and innovation sectors in B.C. to address new challenges facing agriculture in the province, such as climate change. This approach primarily focuses on the application of technology to lower GHG emissions from the sector adapting current agricultural practices to reflect new climate realities. Available lifecycle assessments consistently find that soil-based production systems have far superior environmental performance when compared to high-tech, soil-less production, in terms of land, water and energy use, as well as carbon and water footprints (Barbosa et al., 2015; Boulard et al., 2011; de Villers et al., 2011; Cellura et al., 2012; Page et al., 2012; Barbosa et al., 2015; Ntinas et al., 2020). For example, greenhouse gas emissions from fossil fuel heated hydroponic greenhouses have been found to be about six times higher than emissions from soil-based farming operations producing equivalent products (Clune et al., 2017). A 2009 survey of heated greenhouses in B.C. found that vegetable and floriculture operations consumed an average 1.9 and 1.3 GJ of energy per square meter, respectively, mostly (83%) in the form of natural gas for heating (MacNair & Thomas, 2011). As a result, B.C.'s greenhouse and nursery sector consumes about 70% of the natural gas used by B.C. farms (BC Agriculture Council, 2012).

In 2008, B.C. introduced the first carbon tax in North America. The greenhouse sector was hit particularly hard by this change in energy pricing, due to its high fossil fuel consumption and associated greenhouse gas emissions. The industry lobbied for exemption from the tax, and was granted a 100% rebate in 2012/13, valued at $7.2 million. After 2013, heated greenhouses have been eligible for an 80% carbon tax rebate each year, with an estimated annual value now approaching $12 million (BC Ministry of Agriculture [BC MoA], 2019). Recently-introduced federal carbon pricing schemes also allow an 80% rebate for heated greenhouses (Department of Finance Canada, 2019). The impact of the carbon tax on the greenhouse sector, and subsequent lobbying from the industry, highlight the energy intensive character of these operations, and how policy aimed at reducing emissions can be undermined.

Most emissions from B.C. greenhouses are associated with heating uninsulated structures in winter. A transition to vertical farming would introduce an additional energy cost, due to greater need for artificial lighting. B.C. is fortunate to have an electrical grid that is largely powered by hydro, so electrical lighting would be associated with lower emissions in this province than in other regions. Even so, the province's electrical power would be better used to transition the transportation and built infrastructure sectors off fossil fuels rather than attempting to replace sunlight for crop production.

SUMMARY: Assertions that indoor growing systems and related agritech innovations will reduce GHG emissions in B.C. disregards existing realities in the sector. Given the current trends of significant energy use associated with greenhouse production in B.C., we caution that expanding and relying upon similar indoor growing infrastructure (e.g. vertical farming) for food production has the potential to increase energy demand and dependence in the agricultural sector.

3. **Boost Availability of Locally-Produced Food for B.C. Residents:** The relationship between agritech, increased productivity for global competitiveness and increased availability of local food for British Columbians is unclear and unsubstantiated.

The vision presented by the B.C. Food Security Task Force focuses on strategic increases in production through investment in technology and agritech infrastructure. In the report, the Task Force suggests that "*growing more food in B.C. also means more food for British Columbians. Through new growing practices, farmers could increase their output and profits while producing high quality foods for local grocery stores, restaurants, and consumers. The new practices that could support farm-to-table or farm-to-supplier fresh supply in B.C. could take the form of container farms, vertical farms or urban space farms* (BCFSTF, 2020, p. 34)."

Such an assertion suggests that access to technologies and novel growing practices are limiting factors to the productive potential of B.C.'s agricultural sector, and the availability of local food for consumers. However, we believe it is important to note that there are several critical factors that more immediately and profoundly impact both the food provisioning capacity of B.C. 's agricultural sector, and the availability of locally-produced food.

Addressing current failures related to land access policy is one area of critical importance for increasing agricultural production in the province.

Productive Capacity: Today, approximately 50% of B.C.'s agricultural land base is used for agriculture, including areas where soils are among the most fertile and access to markets is optimal (BC Ministry of Agriculture [BC MoA] n.d.). At present there are a number of barriers preventing B.C. from optimizing production on its fertile agricultural land base. For example, rising real estate prices have pushed some of the best quality agricultural land far beyond what is affordable for farming. In 2016, the median sale price of land in the Agricultural Land Reserve [ALR] land in Metro Vancouver was over $200,000/acre (BC Assessment, 2016). Such elevated prices are not only attributed to intense land use competition in peri-urban areas, but also to an existing policy environment that can encourage farmland speculation and the use of farmland for non-agricultural purposes (Tatebe et al., 2018; Sussmann et al., 2016). Addressing current failures related to land access policy is one area of critical importance for increasing agricultural production in the province.

Only 5% of the B.C.'s land base is suitable for agriculture. The ALR was established to protect this limited, non-renewable resource and maintain the province's agricultural capacity. The Task Force's recommendation to establish an agri-industrial land use designation within the ALR, increasing allowances for development (e.g. concrete bottom greenhouses), undermines the primary purpose of farmland protection. Furthermore, this suggestion ignores the importance of such soils and lands to the overall ecological function and integrity of our agricultural landscapes (Rallings et al., 2019). We would like to caution that such a proposal reinforces the perception of the ALR as a land bank for future residential, industrial or infrastructure uses, rather than a mechanism for protecting irreplaceable agricultural soils and the ecological integrity of B.C.'s agricultural landscapes.

It is important to note that the indoor growing infrastructure promoted in the report does not require the use of the province's limited arable soils. In fact, such development would degrade their viability for future soil-based agriculture. Despite varying degrees of agricultural suitability within the ALR, the reserve represents

the province's best quality agricultural land. We would like to caution that the future food production consequences of eroding the viability of the ALR for soil-based agriculture should be weighted heavily against any hypothesized benefits of expanded indoor growing. Furthermore, this proposal contradicts the recent recommendations brought forth by the Advisory Committee for the Revitalization of the ALR and the Agricultural Land Commission, appointed by the B.C. Minister of Agriculture. In 2018, the independent Advisory Committee recommended an ALR revitalization strategy focused around an "Agriculture First" agenda (Advisory Committee for Revitalizing the Agricultural Land Reserve and the Agricultural Land Commission, 2018a). Based on province-wide stakeholder engagements efforts (Advisory Committee for Revitalizing the Agricultural Land Reserve and the Agricultural Land Commission, 2018b), the Committee recommended a shift toward "a protected, productive ALR". Such a shift would eliminate activities that limit, damage and alienate farmland, or compromises the future agricultural use of limited agricultural soils.

The application of regionally-appropriate technologies to improve the efficiency and sustainability of soil-based agriculture represents an additional important opportunity to maintain and/or increase production in the face of climatic change- one that has been largely ignored in this report. For example, technologies such as rainwater harvesting, efficient soil-based irrigation, or soil carbon monitoring and reporting systems can contribute to maintaining productive agricultural systems while adapting to the impacts of a changing climate.

Availability of Local Food for Local Consumers: Even if highly technical agricultural interventions increase productivity in the sector, the accessibility of this food to local residents is not a direct outcome, especially if such production increases are primarily export-oriented. Gaps in local food supply chains, vertical integration within dominant global supply chains, and market power consolidation, are significant barriers that prevent local food from accessing local markets (Bloom & Hinrichs, 2010; Stahlbrand, 2017; Steinman, 2019).

Even if highly technical agricultural interventions increase productivity in the sector, the accessibility of this food to local residents is not a direct outcome, especially if such production increases are primarily export-oriented.

An institutional procurement study completed in the Okanagan region of B.C. found that, while there was both significant agricultural activity in the region, and demand for local food from public institutions (universities, hospitals and correctional facilities), critical supply chain infrastructure was missing to effectively connect the two (Institute for Sustainable Food Systems [ISFS], 2017). Similarly, the absence of appropriately-scaled and located livestock slaughter and processing facilities in B.C. remains a significant barrier to the expansion of local, small and mid-scale livestock operations, especially for those located in remote areas (Small-Scale Meat Producers Association, 2018). While the Task Force's report articulates support for value-added processing, a focus on "*processes such as extraction, modification, and thermal processing to introduce novel products to market"* (BCFSTF, 2020, pg. 19) does not acknowledge or fulsomely address the absence of infrastructure for minimal food processing (slaughter facilities, freezing, canning etc.) across the province that severely limits the development of robust regional food systems.

The oligopolistic hegemony of nationally and globally-scaled agri-food companies can substantively exclude local producers from establishing themselves in the local supply chain. For example, extensive market

consolidation within the grocery retailer sector presents barriers for many suppliers looking to reach local consumers. In 2016, the top five grocery retailers in Canada received more than 80% of consumers' grocery dollars (Steinman, 2019). With the majority of grocery retailers owned by few companies, a handful of enterprises maintain disproportionate influence over the type and variety of products available to local consumers. Practices such as long-term contracts with suppliers, appointing large manufacturers to manage shelving of competing brands through category management, and fees for carrying products ("slotting fees") are frequently prohibitive to suppliers without considerable access to capital, including many smaller, local entrepreneurs looking to establish themselves (Federal Trade Commission [FTC], 2005; Stanton & Kenneth, 2006; Steinman, 2019).

SUMMARY: We question the characterization of agritechnology, as referenced by the Task Force, as a fundamental barrier to increasing the production capacity of B.C.'s agricultural sector. Furthermore, we question the assumption that significant development in the agritech sector will increase the availability of locally-produced food to local consumers. Establishing a direct relationship between increasing local productivity and improving access to local food overlooks existing barriers in the local food supply chain that prevent locally-produced food from reaching local consumers.

4. **Increase Profitability for Farmers:** Increased productivity, through the adoption of capital-intensive technologies does not directly, or necessarily, increase profitability and prosperity for farmers and other food system stakeholders.

Increasing farm profits is an obvious objective for agricultural producers, however there is a need to consider the existing variable impacts of technological adaptations on agricultural systems and farm profitability. Since net farm returns are the balance of cost and revenue, potential increased returns referenced in the report must be compared to increased expenses from capital-intensive, and tech-dependent production methods.

Decreases in realized net farm income have occurred despite the fact that farmers are producing more food. In fact, 2018 saw the lowest realized net farm income for Canadian farmers in 12 years, with a 40% decrease from the previous year.

Profitability: Between 2012 and 2017 global agritech investments increased by 80% annually (Kukutai & Maughan, 2018), with total investment in agritech reaching over $16 billion in 2019 (Food Technology Magazine, 2019). This significant influx in funding has resulted in emergence of a number of agritech startups, many of which are being rapidly acquired by trans-national agri-food corporations (i.e.

John Deer, Case IH, Bayer [merged with Monsanto], Walmart, and **Nestlé)** (AgFunder News, 2018). While technological advances in the agrifood sector have improved the operations and lives of some farmers, industrialization and corporatization of the modern food system often means that the economic benefits are primarily accrued by large transnational corporations, and not by primary producers (Bronson & Knezevic, 2016b). Current trends suggest that the rapid expansion of capital intensive agritech companies has primarily led to the growth and profitability of agri-food corporations, and much less so to the growth and development of local and regional food systems or the economic wellbeing of family farmers.

Since the mid-20th century ***gross farm receipts*** have generally increased as productivity (yield per acre) has increased (Qualman, 2017; Statistics Canada, n.d.; National Farmers Union [NFU], 2012). During this same timeframe, ***realized net farm income*** in Canada, which subtracts operational expenses and depreciation from gross farm receipts, have generally remained constant, or decreased (Qualman, 2017; NFU, 2012). While Canadian farms have managed to produce more food, and generate more (gross) revenue, this has not resulted in increased profitability for farmers. In fact, 2018 saw the lowest realized net farm income for Canadian farmers in 12 years, with a 40% decrease from the previous year (Statistics Canada, 2019). Such trends suggest that, while the introduction of new technologies in agriculture has contributed to the ability to grow more food and increase gross farm receipts, these benefits (read: profitability) are not being passed on to farmers. For example, in the period between 1985 and 2016, transnational agri-businesses were the primary beneficiaries of farm revenue in Canada capturing 98% of total farm revenues (Qualman, 2017). As mentioned above, these same companies are rapidly cornering the agritech market through the acquisition of new technology start-ups around the world suggesting that this trend of wealth capture and concentration may continue (Clapp & Isakson, 2018), raising the need to thoughtfully approach agritech expansion to ensure benefits can be captured locally, and by primary producers.

In their report, the B.C. Food Security Task Force highlights the history of technology and innovation in the agricultural sector since the industrial revolution, suggesting that as a result *"food largely became an affordable and accessible commodity in developed countries"* (BCFSTF, 2020, p.26). Their assessment ignores the social, ecological and economic consequences of rapid technological advancements in agriculture, especially when these technologies are developed and controlled by corporate interests. The 20th century has been characterized by the continual adoption of new technologies, primarily aimed and increasing production, resulting in what has come to be known as the "technology treadmill". The treadmill describes the typical outcome whereby the benefit of new yield-enhancing, capital intensive, technologies are limited to the early adopters. Once widely adopted, new technologies result in overproduction, which in turn puts a downward pressure on both commodity prices and farmers' profits. (Ikerd, 2002; Holt-Giménez, 2019). Farmers are then forced to adopt the new, capital intensive technologies in order to boost production and compensate for lower commodity prices (i.e. to stay in the game). Ultimately, the initial profits enjoyed by early adopters are negated, and those who did not adopt, or were late to do so, are pushed out (Ikred, 2002). This phenomenon documents how, ultimately new yield enhancing technologies become yet another ever-escalating fixed cost of production required just to stay afloat, without improving the economic viability of the farming business. As noted above, the long-term economic benefits of the "technology treadmill" are often captured by the trans-national companies that develop and control these technologies, and less consistently by farmers.

Employment: Additionally, the B.C. Food Security Task Force suggests that investment and development of an agritech sector will increase job opportunities for workers in B.C. As global investment in agritech and the digitization of agriculture increases, an emerging body of research is suggesting that the associated social consequences require more attention. While innovations in agritech have helped to advance export-oriented

agriculture, such technological shifts have the potential to perpetuate social, economic and racial inequities in the food system (Rotz et al., 2019; Bronson & Knezevic, 2016a, 2016b). Research also suggests that skill-based technological change may contribute to further wage inequality, and marginalization of low wage workers. For example, the increase in demand for high-skilled, tech-related workers can lead to stagnation in wages for less skilled workers (Kristal & Cohn, 2017). In the food system this may negatively impact already economically marginalized groups including migrant labourers, new immigrants, youth and rural workers, and new entrant farmers (Rotz et al., 2019). While there is significant investment in the development of the agritech sector, emerging research suggests that many of the social, political and ethical consequences merit thoughtful consideration as these have not been adequately explored or understood.

SUMMARY: We question the proposal of a direct relationship between increased production from technological adoption and increased farm profitability or prosperity for farmers. The trends cited suggest that widespread adoption of agricultural technologies have increased total production costs and gross farm revenue, but not farm profitability. Additionally, it has been documented that much of the profits of the food supply chain are accrued primarily by technological providers and agri-business, but not to farmers. Furthermore, we call for deeper consideration of evidence suggesting that agritech could exacerbate already existing inequality and marginalization in the food system.

PART 2

Additional areas of needed policy attention to more directly increase food security, mitigate and adapt to climate change, boost local food availability, and increase productivity and farm profitability.

We recognize that the mandate of the B.C. Food Security Task Force was focused on identifying strategies to grow the agritech sector. However, as identified above, we caution against the capacity of such an approach to address the goals identified by the Task Force, which include increasing food security, mitigating and adapting to climate change, boosting local food availability, and increasing profitability for farmers. We acknowledge that technology and innovation will be a factor in the development of B.C.'s sustainable food system, but caution against claims that the narrow agritech-centered approach will yield the broad food system societal and economic benefits results described in the report.

Additionally, we would like to highlight alternative pathways to pursue the important food system goals articulated by the B.C. Food Security Task Force. As such, below we highlight some key priority areas that may be overlooked in such an agritech-centered approach. These priority areas may have significant potential to impact the challenges highlighted by the Task Force including, 1) increase food security, 2) mitigate and adapt to climate change, 3) boost local food availability, and 3) increase profitability for farmers.

Protecting farmland, ensuring its use for soil-based agriculture, and maintaining B.C.'s food production capacity

Only about 50% of B.C.'s protected farmland, known as the Agricultural Land Reserve, is currently used for agriculture. This should not be interpreted as agriculture's limited capacity, but rather an indication of the potential for soil-based agriculture to increase B.C.'s food production capacity, provided barriers to its utilization are adequately addressed.

For example, rising real estate prices across the province have pushed cost for some of the best quality agricultural land far beyond what is affordable for farmers. In 2018, average farmland prices in key agricultural regions, such as the South Coast, Vancouver Island, and Okanagan Valley were the highest in Canada, 3-6 times greater than those in Southwestern Ontario, the next leading region for farmland prices (Farm Credit Canada, 2019). Elevated prices are not only attributed to intense land use competition in peri-urban areas, but also an existing policy environment that encourages farmland speculation and the use of farmland for non-agricultural purposes (Tatebe et al., 2018), including rural estate development. For example, recommendations from the Advisory Committee for ALR Revitalization found that 80% of local government were struggling to regulate the development of estate style homes in the ALR, and call for strict regulations on home plate size (Advisory Committee for Revitalizing the Agricultural Land Reserve and the Agricultural Land Commission, 2018a). In this same report, local governments in the Lower Mainland reported regularly receiving development permit applications for homes in the ALR ranging between 5,000 and 40,000 square feet (Advisory Committee for Revitalizing the Agricultural Land Reserve and the Agricultural Land Commission, 2018a). Addressing current barriers in the land access policy environment is an area of critical importance to increasing production from soil-based agriculture.

Possible Actions:

- Improve access to credit and capital for new entrant farmers (Wilson & Martorel, 2017)
- Farm property tax relief reform (Metro Vancouver, 2016)
- Restrict farmland ownership for non-Canadians, non-residents and/or entities such as pension plans, hedge funds, or private equity firms (Magnan & Desmarais, 2017)
- Improve data collection and transparency of beneficial and legal farmland ownership to better improve and inform ownership policies (Tatebe et al., 2018)
- Improve regulatory framework to limit residential land speculation in the ALR (Advisory Committee for Revitalizing the Agricultural Land Reserve and the Agricultural Land Commission, 2018a)

Support farmers to engage in regenerative, ecologically based farming practices

It is well documented that farming practices on industrial commodity farms contribute to soil and water degradation, the loss of habitat and biodiversity, and climate change (Kimbrell, 2002; IPES-Food, 2016). On the other hand, regenerative farming practices that prioritize soil health and minimize dependence on external synthetic inputs are being adopted to restore ecosystem health, and build or maintain soil productivity and fertility over time (Paustain et al., 2016; Rodale Institute, 2014; FFCF, 2019; Loboguerrero et al., 2019). For example, increasing the amount of soil carbon stored in agricultural soils globally has been identified as an important climate change mitigation avenue with multiple benefits (Masciandaro, 2018; Milne et al., 2015, IFOAM, 2012). While the carbon sequestration capacities of soil vary geographically and over time (Baveye et al., 2018; White et al., 2018), the potential for GHG mitigation is recognized in policy initiatives such as the '4 per mille Soils for Food Security and Climate'. The '4 per Mille' initiative advocates for a 0.4% increase in soil carbon annually to help mitigate anthropogenic greenhouse gas emissions (Minasny, 2017). Furthermore, the Rodale Institute has found, through 30 years of farming system trials, that organic, regenerative farming systems produce yields competitive with conventional production systems (Rodale Institute, 2011).

These efforts suggest that regenerative agriculture can be practiced as both an effective climate change mitigation and adaptation strategy. This is achieved by building resilient systems that are better adapted to changing water availability, more fertile, and less dependent on synthetic external inputs. Additionally, increased prevalence of carbon markets and recognition for the value of ecosystem services have developed new revenue streams for farmers practicing regenerative, ecologically-based agriculture.

Regionally-adapted technology and innovation could support the advancement and adoption of regenerative agriculture practice. Investing in the development of a province-wide research and extension service would provide critical support for farmers, and support appropriate, productive use of the provinces ALR land. While adaptation of current agricultural practices through such things as the development of new cultivars, and pest management strategies is important, it must be paired with aggressive mitigation plans if we hope to meet climate commitments, and ensure our capacity for provincial food self-reliance.

Possible Actions:

- Support extension programing linking applied academic researchers, private sector partners, and new and experienced farmers, all focused on regionally-adapted regenerative agriculture

- Support development and application of technologies that facilitate adaptations in soil-based agriculture, such as improved water management (e.g. rainwater harvesting systems), reduced energy use, efficient soil carbon sequestration, monitoring and reporting, improved tools for reduced and no-till production systems etc.
- Develop and implement renewable energy technologies in agriculture to reduce energy dependency
- Support applied research to advance regenerative, ecologically-based, resilient farming and food systems

Training the next generation of farmers

Securing B.C.'s food production capacity into the future requires investing in training new farmers. Today, the average age of Canadian farm operators is 55 years old and farm operators represent just 2% of Canada's population (Statistics Canada, 2017a; Statistics Canada, 2011). In the 2016 Census of Agriculture only 8.4% of farmers reported having a written succession plan (Statistics Canada, 2017a). This trend suggests that without investment in the education and training of new farmers, the capacity for long-term food production in B.C., and across Canada is at risk.

Increasingly, those interested in starting farming careers in Canada are coming to the sector from a diversity of backgrounds and experiences. They include youth, second careerists, Indigenous Peoples, and new Canadians, all of whom may or may not have agrarian backgrounds (Food Secure Canada [FSC], 2016). Given this reality, and the need to advance regenerative agriculture practices, it is increasingly important to provide appropriate and accessible training opportunities for new farmers coming to the profession from a variety of backgrounds.

Possible Actions:

- Support for new farmer training in the form of curriculum development, and institutional capacity building
- Support the further development and expansion of recognized non-traditional agricultural technical training programs, and ongoing professional development for farmers in B.C.

Reduce poverty to improve food security for British Columbians

Poverty and economic inequality, not scarcity, are overwhelmingly the key determinants of food security, both locally in B.C. and globally (Food Insecurity Policy Research [PROOF], 2018; FAO, IFAD, UNICEF, WFP and WHO, 2019). While it is true that producing more food in British Columbia could help decrease B.C.'s reliance on food imports and help buffer against uncertainties in global supply chains (provided regional food supply chains are strengthened), related food security impacts are neither substantiated nor assured. Improving food security locally, and eliminating hunger globally, require strategies to alleviate poverty and improve financial circumstances among the most vulnerable populations (PROOF, 2018; Rothman, 2007).

Possible Actions:

- Make strategic investments to incorporate short and long term food security considerations into planning and design of subsidized housing developments (Vancouver Coastal Health, 2008)
- Strengthen social assistance programs such as effective child benefits, accessible early learning and childcare support, living wages etc (Brown & Tarasuk, 2019)
- Improve access to education and training such as student financial assistance programs

Strengthen regional supply chain networks to improve access of British Columbians to locally produced products

We commend the B.C. Food Security Task Force for highlighting the importance of strengthening regional food systems by connecting regional producers and consumers. We believe that doing so can substantially improve economic, environmental and societal wellbeing (Mullinix et. al., 2016). However, given the export-oriented nature of the dominant food system, barriers to getting locally-produced food to local consumers exist throughout the supply chain. These include, but are not limited to, an absence of appropriately-scaled processing infrastructure, market consolidation across the supply chain, and prohibitive conditions to enter in the retail sector (Grube-Cavers et al., 2018; Stahlbrand, 2017; Steinman, 2019). As such, increasing agricultural production, through agritech innovations or otherwise, will likely be an insufficient intervention to increase availability of locally-produced food. Pursuing this outcome requires addressing barriers across the food supply chain to strengthen regional food systems.

Possible Actions:

- Support the development of appropriately-scaled processing facilities (slaughter/cut and wrap, canning, freezing, etc.) through funding, policy development, and regulatory reform
- Review policy to ensure an appropriate balance between safety, traceability, and ability of local producers to access the local market.
- Develop policy to facilitate public institutional procurement of local food
- Support the development of cooperatively owned infrastructure and businesses, including grocery retail

Support provincial and regional research and food system data collection to improve understanding of current trends and needs of the sector and inform policy development

Increasingly, the food system is being recognized as a complex network of processes that impact our communities and environments in multiple ways. As such, food system policy and planning approaches must be integrated across a breadth of previously siloed domains, including, agriculture, trade, local economic development, community health, poverty reduction, ecological integrity, and beyond. Support for interdisciplinary food system research and data collection, particularly at the local-regional level, can help inform policy by improving our understanding of current trends and linkages between food system domains and outcomes. As an example, the Winnipeg Food Atlas has been developed as an open access database integrating neighbourhood-level information on food retail environments, household income, demographics, and health indicators. The database reveals relationships between food access, health, nutrition, income and demographics for a more comprehensive understanding of the food environment and more informed policy development (Winnipeg Food Atlas, 2020). As another example, the City of New York expands their food metrics reporting each year as a critical tool for understanding the implementation of city-level food initiatives (Freudenberg, Willingham, & Cohen, 2018). By expanding the capacity for consistent, local level data collection, the city has been able to measure the impact of new initiatives, and develop policies, and strategies that respond to changing dynamics of their food system.

Possible Actions:

- Develop province-wide, multidisciplinary food system indicators and monitoring programs
- Support local governments in efforts to collect and report on local level food systems data

CONCLUSION

The Future of B.C.'s Food System report, released by the B.C. Food Security Task Force puts forward that a substantial and singular focus on an expanded agritech sector can 1) increase food security, 2) improve mitigate and adapt to climate change, 3) boost the availability of local food, and 4) increase the profitability for B.C. farmers. While the thoughtful application of appropriate technology can play a role in improving agricultural practices and food system outcomes, this response notes that the capacity of technology-intensive approaches, such as vertical farming, cellular agriculture, or robotic farming, has a limited capacity to meaningfully advance these goals. We have prepared this response to caution against advancing an agritech vision for our food system as the primary mechanism for sustainability, prosperity and productivity in the food system. Additionally, we suggest that a narrowly-focused agritech vision can overlook critical avenues of support needed for ongoing initiatives, and policy development across the food system that, if pursued, could more meaningfully and genuinely advance these important goals.

REFERENCES

AgFunderNews. (2018). AgFunderNews - Agriculture, Technology and Investment. Retrieved from: https://agfundernews.com/

Advisory Committee for Revitalizing the Agricultural Land Reserve and the Agricultural Land Commission, (2018a). Revitalizing the Agricultural Land Reserve and the Agricultural Land Commission: Final Report to the Minister of Agriculture, Recommendations for Revitalization. Retrieved from: https://engage.gov.bc.ca/app/uploads/sites/327/2019/04/Final-Committee-Report-to-the-Minister-of-Agriculture-Recommendations-for-Revitalization-December-4-2018_Optimized.pdf

Advisory Committee for Revitalizing the Agricultural Land Reserve and the Agricultural Land Commission, (2018b). Revitalizing the Agricultural Land Reserve and the Agricultural Land Commission: What We Heard Report. Retrieved from: https://engage.gov.bc.ca/agriculturallandreserve/

Alexandratos, N. & J. Bruinsma. 2012. World agriculture towards 2030/2050: the 2012 revision. ESA Working paper No. 12-03. Rome, FAO.

Barbosa, G.L., F.D.A. Gadelha, N. Kublik, A. Proctor, L. Reichelm, E. Weissinger, G.M. Wohlleb & R.U. Halden. 2015. Comparison of land, water, and energy requirements of lettuce grown using hydroponic vs. conventional agricultural methods. I*nternational Journal of Environmental Research and Public Health*. 12: 6879-6891.

Baveye, P. C., Berthelin, J., Tessier, D., & Lemaire, G. (2018). The "4 per 1000" initiative: A credibility issue for the soil science community? Geoderma, 309, 118–123. https://doi.org/https://doi.org/10.1016/j.geoderma.2017.05.005

BC Agriculture Council. 2012. Estimated carbon tax impacts on BC agriculture – by sector. In Response Package AGR-2017-7164. Retrieved from: http://docs.openinfo.gov.bc.ca/Response_Package_AGR-2017-71614.pdf.

B. C. Assessment. (2016). Requested B.C. Assessment Conveyance Price (2016). Full Report forthcoming from the Institute for Sustainable Food Systems.

B.C. Food Security Task Force.(2020). The Future of B.C.'s Food System: Findings and Recommendations from the B.C. Food Security Task Force. Retrieved from https://engage.gov.bc.ca/govtogetherbc/impact/food-security-task-force-results/

B.C. Ministry of Agriculture [BC MoA]. (n.d.). Agricultural land use inventory reports. Retrieved from: https://www2.gov.bc.ca/gov/content/industry/agriculture-seafood/agricultural-land-and-environment/strengthening-farming/planning-for-agriculture/agricultural-land-use-inventories

B.C. Ministry of Agriculture [BC MoA]. (2019). Greenhouse carbon tax relief grant program 2019 Q&A. Retrieved from: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/programs/greenhouse-carbon-tax/greenhouse_carbon_tax_relief_grant_q_a.pdf.

Bloom, J. D., & C.C. Hinrichs. (2011). Moving local food through conventional food system infrastructure: Value chain framework comparisons and insights. *Renewable Agriculture and Food Systems* 26(1): 13-23.

Boulard, T., C. Raeppel, R. Brun, F. Lecompte, F. Hayer, G. Carmassi & G. Gaillard. (2011). Environmental impact of greenhouse tomato production in France. *Agronomy for Sustainable Development*. 31: 757-777.

Bronson, K., & I. Knezevic. (2016a). Big Data in food and agriculture. *Big Data & Society*. 3 (1), 1–5. https://doi.org/10.1177/2053951716648174.

Bronson, K., & I. Knezevic. (2016b). Food studies scholars can no longer ignore the rise of big data. *Canadian Food Studies*. 3 (1), 9–19. https://doi.org/10.15353/cfs-rcea.v3i1. 138.

Brown, E. M., & V. Tarasuk. (2019). Money speaks: Reductions in severe food insecurity follow the Canada child benefit. *Preventive Medicine, 129*, 105876. doi:10.1016/j.ypmed.2019.105876

Clapp, J., & S.R. Isakson. (2018). *Speculative harvests: Financialization, food and agriculture*. Black Point, Nova Scotia; Rugby, Warwickshire, UK; Fernwood Publishing.

Clune, S., E. Crossin & K. Verghese. 2017. Systematic review of greenhouse gas emissions for different fresh food categories. *Journal of Cleaner Production*. 140: 766-783. doi: S0959652616303584.

Conner, D. S., A. Nowak, J. Berkenkamp, G.W. Feenstra, J.V. Kim, T. Liquori, & M.W. Hamm. (2011). Value chains for sustainable procurement in large school districts: Fostering partnerships. *Journal of Agriculture Food Systems, and Community Development*. 1(4) 55-68.

Dachner, N., & V. Tarasuk. (2017). Food waste and food insecurity in Canada – Diverting food waste to charitable food programs will not address food insecurity in Canada. Retrieved from: https://proof.utoronto.ca/food-waste-and-food-insecurity-in-canada/

Department of Finance Canada. (2018). Backgrounder: Targeted relief for farmers and fishers, and residents of rural and remote communities. Retrieved from: https://www.canada.ca/en/department-finance/news/2018/10/backgrounder-targeted-relief-for-farmers-and-fishers-and-residents-of-rural-and-remote-communities.html.

De Villers, D.S., H.C. Wien, J.E. Reid & L.D. Albright. (2011). Energy use and yields in tomato production: Field, high tunnel and greenhouse compared for the northern tier of the USA (Upstate New York). *Acta Horticulturae*. 893: 373-380.

Food and Agriculture Organization of the United Nations [FAO]. (2017). Food Balance Sheets – Global Food Supply, 2013. Retrieved from: http://www.fao.org/faostat/en/#data/FBS

FAO, IFAD, UNICEF, WFP & WHO. (2019). The State of Food Security and Nutrition in the World 2019. Safeguarding against economic slowdowns and downturns. Rome, FAO. License: CC BY-NC-SA 3.0 IGO. Retrieved from: http://www.fao.org/state-of-food-security-nutrition

Farm Credit Canada, (2019). Farmland Values Report 2018. Retrieved from: https://www.fcc-fac.ca/en/knowledge/ag-economics/farmland-values-report.html

Farm Folk City Folk [FFCF]. (2019). Climate Change Mitigation Opportunities in Canadian Agriculture and Food Systems. Retrieved from: https://www.farmfolkcityfolk.ca/wp-content/uploads/2019/12/Climate-Mitigation-Opportunities.pdf

Federal Trade Commission [FTC]. (2005). Category Management: An Interview with FTC Commissioner Thomas B. Leary. Retrieved from: https://www.ftc.gov/public-statements/2005/03/category-management-interview-ftc-commissioner-thomas-b-leary

Food and Technology Magazine. (2019). Global Agri-tech Investment Tops $16 billion in 2018. Retrieved from https://www.ift.org/news-and-publications/food-technology-magazine/issues/2019/april/columns/startups-and-innovators-2018-global-agrifood-tech-investment-tops-$16-billion

Food Insecurity Policy Research [PROOF]. (2018). Houshold Food Security in Canada. Retrieved from: https://proof.utoronto.ca/food-insecurity/#1

Food Secure Canada [FSC]. (2016). Farm Renewal, Business Development & Labour In the Next Agriculture Policy Framework. Retrieved from: https://foodsecurecanada.org/sites/foodsecurecanada.org/files/201611_new_farmers_policy_brief_-_short_version_v2.pdf

Freudenberg, N., C. Willingham, & N. Cohen. (2018). The role of metrics in food policy: Lessons from a decade of experience in New York City. *Journal of Agriculture, Food Systems, and Community Development*. 8 (Suppl. 2), 191–209. https://doi.org/10.5304/jafscd.2018.08B.009

Gray, Alex. (2016). Which countries spend the most on food? World Economic Forum. Retrieved from: https://www.weforum.org/agenda/2016/12/this-map-shows-how-much-each-country-spends-on-food/

Grube-Cavers, A., K. Tatebe, W. Polasub, G. Augustinowicz, & K. Mullinix. (2018). Okanagan Bioregion Institutional Procurement Study, Summary Report. Richmond British Columbia: Institute for Sustainable Food Systems, Kwantlen Polytechnic University. Retrieved from: https://www.kpu.ca/sites/default/files/Okanagan%20bioregion%20institutional%20procurement%20study%20%E2%80%93%20final%20reportFINAL6.4.2018.pdf

Harris, D., M. Lott, V. Lakins, B. Bowden & J. Kimmons. (2012). Farm to Institution: Creating Access to Healthy Local and Regional Foods. *Advances in Nutrition.* 3: 343-349.

Hawken, P. (2017). *Drawdown: The most comprehensive plan ever proposed to reverse global warming.* New York, New York: Penguin Books.

Holt-Giménez, E., A. Shattuck, M. Altieri, H. Herren, & S. Gliessman. (2012). We already grow enough food for 10 billion people ... and still can't end hunger. *Journal of Sustainable Agriculture.* 36 (6), 595–598. https://doi.org/10.1080/10440046.2012.695331

Holt-Giménez,, E. (2019) *Can We Feed the World Without Destroying it?* Cambridge, UK ; Medford, MA : Polity Press.

Ikred, J. (2002). The New Farm Crisis Calls for New Farm Policy. Presentation to the Missouri Farmers' Union Annual Conference. Jefferson City, MO. January 5, 2002.

International Federation of Organic Agriculture Movements [IFOAM]. (2012).Submission from IFOAM to the HLPE on Climate Change and Food Security. Retrieved from: http://www.fao.org/fileadmin/user_upload/fsn/docs/HLPEII/IFOAM_Submission_to_CFS_HLPE_on_Climate_Change_and_Food_Security.pdf

International Institute of Environment and Development. [IIED]. 2013. Agriculture and food systems for a sustainable future. Retrieved from: https://sustainabledevelopment.un.org/index.php?page=view&type=400&nr=889&menu=1515

IPES-Food. (2016). From uniformity to diversity: a paradigm shift from industrial agriculture to diversified agroecological systems. International Panel of Experts on Sustainable Food Systems [IPES-Food]. Retrieved from: https://cgspace.cgiar.org/bitstream/handle/10568/75659/UniformityToDiversity_FullReport.pdf?sequence=1&isAllowed=y

Kimbrell, A. (2002). Fatal harvest: The tragedy of industrial agriculture. Washington, D.C: Island Press.

Kristial, T., and Y. Cohen. (2017). The causes of rising wage inequality: the race between institutions and technology. Socio-economic Review. 15 (1), 187-212.

Kukutai, A. & S, Maughan. (2018). How the Ag-Tech Investment Boom Will Create A Wave of Agriculture Unicorns. Retrieved from: https://www.forbes.com/sites/outofasia/2018/01/16/how-the-agtech-investment-boom-will-create-a-wave-of-agriculture-unicorns/#5157ab0d562

Li, N., N. Dachner, V. Tarasuk, R. Zhang, M. Kurrein, T. Harris, S. Gustin, & D. Rasali. (2016). Priority health equity indicators for British Columbia: Household food insecurity indicator report. Toronto: Research to identify policy options to reduce food insecurity (PROOF). Retrieved from https://proof.utoronto.ca/

Loboguerrero, A. M., B.M. Campbell, P.J.M. Cooper, J.W. Hansen, T. Rosenstock, & E. Wollenberg (2019). Food and earth systems: Priorities for climate change adaptation and mitigation for agriculture and food systems. Sustainability. 11 (5). https://doi.org/10.3390/su11051372

Macnair, E. & S. Thomas. (2011). B.C. greenhouses and the farm energy assessment pilot project. Proceedings of the 53rd Annual Horticultural Growers' Short Course. Lower Mainland Horticultural Improvement Association.

Magnan., A. & A.A. Desmarais. (2017). Who is buying the Farm? Canadian Centre for Policy Alternatives. Retrieved from: https://www.policyalternatives.ca/publications/reports/who-buying-farm

Masciandaro, G., C. Macci, E. Peruzzi, & S. Doni, (2018). Soil Carbon in the World: Ecosystem Services Linked to Soil Carbon in Forest and Agricultural Soils. In Carlos Garcia C., P. Nannipieri, & T. Hernandez (Ed.) The Future of Soil Carbon: Its Conservation and Formation (pp. 1-38). Academic Press.

Mbow, C., C. Rosenzweig, L.G. Barioni, T.G. Benton, M. Herrero, M. Krishnapillai, E. Liwenga, P. Pradhan, M.G. Rivera-Ferre, T. Sapkota, F.N. Tubiello, & Y. Xu. (2019): Food Security. In P.R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.-O. Pörtner, D.C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, M. Pathak, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, K. Kissick, M. Belkacemi, J. Malley, (Ed.). Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems. In press. Retrieved from: https://www.ipcc.ch/srccl/

Metro Vancouver. (2016). Encouraging agricultural production through farm property tax reform in Metro Vancouver. Retrieved from: http://www.metrovancouver.org/services/regional-planning/agriculture/resources/Pages/default.aspx

Milne, E., Banwart, S. A., Noellemeyer, E., Abson, D. J., Ballabio, C., Bampa, F., … Zheng, J. (2015). Soil carbon, multiple benefits. *Environmental Development*. *13*, 33–38. https://doi.org/https://doi.org/10.1016/j.envdev.2014.11.005

Minasny, B., B.P. Malone, A.B. McBratney, D.A. Angers, D. Arrouays, A. Chambers, ... L. Winowiecki. (2017). Soil carbon 4 per mille. *Geoderma*. *292*, 59–86. https://doi.org/https://doi.org/10.1016/j.geoderma.2017.01.002

Mullinix, K., C. Dorward, C. Sussmann, W. Polasub, S. Smukler, C. Chiu, A. Rallings, C. Feeney, & M. Kissinger. (2016). The Future of Our Food System: Report on the Southwest BC Bioregion Food System Design Project. Richmond, British Columbia: Institute for Sustainable Food Systems, Kwantlen Polytechnic University.

National Farmers Union [NFU]. (2012). Farmers, the Food Chain and Agriculture Policies in Canada in Relation to the Right to Food. Retrieved from: https://www.nfu.ca/wp-content/uploads/2012/03/NFU-Final-Report-to-Special-Rapporteur-on-the-Right-to-Food-May-2012.pdf

Ntinas, G. K., Dannehl, D., Schuch, I., Rocksch, T., & Schmidt, U. (2020). Sustainable greenhouse production with minimised carbon footprint by energy export. Biosystems Engineering, 189, 164–178. https://doi.org/https://doi.org/10.1016/j.biosystemseng.2019.11.012

Page, G., B. Ridoutt & B. Bellotti. (2012). Carbon and water footprint tradeoffs in fresh tomato production. *Journal of Cleaner Production*. 32: 219-226.

Paustian, K., J. Lehmann, S. Ogle, D. Reay, G. P. Robertson, & P. Smith (2016) Climate-smart soils. *Nature*. 532.

Qualman, D. (2017) Agribusiness takes all: 90 years of Canadian net farm income. Retrieved from: https://www.darrinqualman.com/canadian-net-farm-income/

Rodale Institute (2011). The Farming Systems Trial: Celebrating 30 years. Retrieved from: https://mk0rodaleinstitydwux.kinstacdn.com/wp-content/uploads/fst-30-year-report.pdf

Rodale Institute. (2014). Regenerative Organic Agriculture and Climate Change: A Down-to-Earth Solution to Global Warming. Retrieved from: http://rodaleinstitute.org/assets/WhitePaper.pdf

Rallings, A. M., S.M. Smukler, S.E. Gergel, & K. Mullinix. 2019). Towards multifunctional land use in an agricultural landscape: A trade-off and synergy analysis in the Lower Fraser Valley, Canada. *Landscape and Urban Planning*, *184*, 88–100.

Rothman L. MSW RSW, (2007). Oh Canada! Too many children in poverty for too long, *Paediatrics & Child Health*. 12(8), 661–665. https://doi.org/10.1093/pch/12.8.661

Rotz, S., E. Gravely, I. Mosby, E. Duncan, E. Finnis, M. Horgan, J. LeBlanc, R. Martin, H.T. Neufeld, A. Nixon, L. Pant, V. Shalla, & E. Fraser. (2019). Automated pastures and the digital divide: How agricultural technologies are shaping labour and rural communities. *Journal of Rural Studies*. 68(January), 112–122. https://doi.org/10.1016/j.jrurstud.2019.01.023

Schimmelpfennig, D. (2016). Farm Profits and Adoption of Precision Agriculture, ERR-217, U.S. Department of Agriculture, Economic Research Service. Retrievd from: https://www.ers.usda.gov/webdocs/publications/80326/err-217.pdf?v=0

Small Scale Meat Producers Association [SSMPA]. (2018). Response to Ministry of Agriculture's Class D/E Survey/Consultation Process. Retrieved from: https://smallscalemeat.ca/2018/04/11/response-to-ministry-of-agricultures-class-d-e-survey-consultation-process/

Stahlbrand, L. (2017). Can values-based Food Chains Advance Local and Sustainable Food Systems? Evidence from Case Studies of University Procurement in Canada and the UK. *International Journal of Sociology of Agriculture and Food*. 24(1). 77-95.

Statistics Canada. (n.d.). Net Farm Income - Agricultural Economic Statistics. Retrieved from: https://www150.statcan.gc.ca/n1/en/catalogue/21-010-X

Statistics Canada. (2019). The Daily: Farm income 2018. Retrieved from: https://www150.statcan.gc.ca/n1/daily-quotidien/191126/dq191126b-eng.htm

Stanton, J. & K. Herbst. (2006), "Slotting allowances: short-term gains and long-term negative effects on retailers and consumers", *International Journal of Retail & Distribution Management*. 34(3). 187-197. https://doi-org.ezproxy.library.ubc.ca/10.1108/09590550610654357

Steinman, J. (2019). *Grocery story: The promise of food co-ops in the age of grocery giants*. Gabriola Island, CA: New Society Publishers.

Sussmann, C., C. Dorward, W. Polasub, K. Mullinix, & B. Mansfield. 2016). Home on the range: Cost pressures and the price of farmland in Metro Vancouver. Retrieved from: http://www.kpu.ca/sites/default/files/ISFS/Sussmann%20et%20al%202016_Home%20on%20the%20Range.pdf

Tarasuk, V., A. Mitchell, & N. Dachner. (2014). Household food insecurity in Canada, 2012. Toronto: Research to identify policy options to reduce food insecurity (PROOF). Retrieved from: https://proof.utoronto.ca/resources/proof-annual-reports/annual-report-2012/

Tarasuk, V. (2017). Implications of a basic income guarantee for household food insecurity. Retrieved from: https://proof.utoronto.ca/wp-content/uploads/2017/06/Paper-Tarasuk-BIG-EN-17.06.13-1712.pdf

Tatebe, K., N. Robert, R. Liu, A. dela Rosa, E. Wirsching, and K. Mullinix. (2018). Protection is Not Enough: Policy Precedents to Increase the Agricultural Use of BC's Farmland. Richmond, British Columbia: Institute for Sustainable Food Systems, Kwantlen Polytechnic University.

Vancouver Coastal Health. (2008). Food Security & Housing Preliminary Rationale and Strategies for the Subsidized Housing Sector. Retrieved from: http://oasis.vch.ca/media/PopulationHealth_FoodSecurityHousing.pdf

Winnipeg Food Atlas (2020). Retrieved from: http://www.mbcdp.ca/fns.html

PEACE RIVER REGIONAL DISTRICT

REPORT

To: Electoral Area Directors Committee Report Number: ADM-EADC-017

From: Crystal Brown, Electoral Area Manager Date: August 11, 2020

Subject: Regional District Service Establishment Process

RECOMMENDATION:

That the Electoral Area Directors Committee receive the report titled "Regional District Service Establishment Process – ADM-EADC-017" which outlines the steps required to establish a new service with expected time frames, for discussion.

BACKGROUND/RATIONALE:

The Electoral Area Directors have identified a number of projects that will require either converting the existing Supplementary Letters of Patent (SLP) to a Service Establishment Bylaw, or the creation of a completely new service function, through an establishment bylaw. Letters patent are a legal document created by the B.C. government that allows the Regional District to operate the service. Examples of these projects include expansion of the Charlie Lake Fire Department, Gotta Go, Seniors Initiative, Water, Wonowon road, trail and lighting, Connectivity, Natural Gas, partnerships with School Districts, Synergy Groups, Sub-regional Grant-in-Aid, Cemeteries, Fire Expansions, and Road Rescue, to name a few.

To assist with planning, staff have put together some information around the legislative process, bylaw requirements, and some example timelines.

Service Establishing Process

There are a few different steps in the service establishing bylaw process. How long it takes to complete the service establishing bylaw process depends on a number of factors, including the participating area approval method chosen and the complexity of the service. The various steps in the establishing bylaw process are:

1. Service establishing bylaw or conversion bylaw drafted; presented to Board for consideration of first three readings
2. Municipal council or electoral area director provide written consent (if applicable)
3. Provincial review and statutory approval by the Inspector of Municipalities (6-8 weeks)
4. Approval of the electors (if applicable, 80 days, 2.5 months)
5. Adoption of the bylaw by the board
6. Period during which bylaw can be challenged by applying to Supreme Court (1 month)
7. Adopted bylaw submitted to the Ministry of Municipal Affairs and Housing for their records

Service Establishing Bylaw

Under the legislation, *(Local Government Act Section 339)* all regional district service establishing bylaws must:

- Describe the service
- Define the service boundaries

- Identify the participants
- Indicate the method of cost recovery
- Set the maximum requisition for the service

Voting

The decision to establish a new service is voted on by the entire regional district board -- a majority vote is required to establish the service. The voting is unweighted. (One vote per Director).

Provincial Statutory Approval

Once a regional district service establishing bylaw is given three readings, a signed certified copy of the bylaw at third reading, along with all required supporting information is provided to the B.C. government. Provincial staff review the bylaw for legislative compliance and financial viability. Once the initial review is complete, the bylaw is sent to the Inspector of Municipalities for final approval and issuance of a statutory approval certificate. If a regional district service establishing bylaw is accompanying a loan authorization bylaw, these should be submitted to the provincial government together.

Supporting Information

To assist the Inspector of Municipalities' approval decision, provincial government staff need the following information to support their review of a regional district service establishing bylaw:

- **Financial plan:** Evidence that the service is or will be included in the adopted five-year financial plan.

- **Operating budget:** A budget of the anticipated revenues and expenditures for the service for the next five years. The budget should specify the methods to be used for initial financing and ongoing cost recovery for the service.

- **Capital budget:** If the service will include a large capital component, a separate capital budget showing that engineering and contingency costs have been considered.

- **Tax impact:** If the service will result in a substantial tax impact to properties in any property class, information on any consultation that has been undertaken.

- **Assessment breakdown:** The assessed values of the properties in the proposed service area by property class and the number of occurrences in each class. This is crucial when the service area is a portion of an electoral area or municipality.

- **Cost recovery:** If the methods of cost recovery include property taxation, the method of taxation that will be used (either property value or parcel tax).

- **Requisition limit:** An indication of the calculation used to arrive at the requisition limit. If both a rate per $1,000 of property assessment and a maximum dollar limit are provided for, the calculations must initially be equivalent. Please note that a requisition limit specified by a rate per $1,000 must be based on the net taxable value of land and improvements and cannot be based on improvements only. (*LGA s.339 (1) (e) (ii)*)

- **Background information:** Staff or consultant reports that provide background information on the service.

- **Method of participating area approval:** Indicate the method of approval. If consent is being used, include the consents and petition certificate of sufficiency (if applicable) with the statutory approval application. If approval of the electors is being used, indicate whether it is the alternative approval process or assent voting and when council or the board would like to conduct these. (Elector approval must be completed within 80 days of the receipt of Ministry approval of the bylaw at third reading – the required notices and other arrangements stipulated by Part 3 – Electors and Elections, and Part 5 – Assent Voting, of the *Local Government Act,* cannot be completed in any significantly shorter timeline.)

- **Exemption to participating area approval:** Indicate if the bylaw is for the purpose of preparing or implementing a waste management plan that has been requested by, or approved by, the minister responsible for the *Environmental Management Act* and does not require participating area approval.

ALTERNATIVE OPTIONS:

1. That the Electoral Area Directors Committee provide further direction.

STRATEGIC PLAN RELEVANCE:

☒ Not Applicable to Strategic Plan.

FINANCIAL CONSIDERATION(S):

None at this time.

COMMUNICATIONS CONSIDERATION(S):

None at this time.

OTHER CONSIDERATION(S):

The Ministry of Municipal Affairs and Housing (Ministry) has produced a guidance document for local governments conducting assent voting (referendum) during the COVID-19 pandemic. Local governments will need to have a COVID-19 plan that addresses the procedures and processes for referendums in place prior to appointing the Chief Election Officer. As such, the process to amend or create a service will take longer during the COVID-19 pandemic, compared to conducting a referendum after COVID-19.

Attachments:

1. Scenario 1 Example
2. Scenario 2 Example
3. Guidance for Conducting By-elections and Assent Voting During COVID-19

Example 1

EADC makes recommendation to the Board to move forward with a creating a new service. Must conduct feasibility first.

July 16, 2020	EADC meeting
	EADC recommends to the Board to move ahead with a project
August 13th	Board Meeting
	Board approves a project
August 17-28th	RFP development to conduct feasibility study
August 31st	RFP posted
September 28th	RFP closes
Sept 28 – Oct 5	Proposal review and evaluation
October 6	Prepare report for EADC
October 15	EADC picks proposal
	EADC makes recommendation to Board
November 12	Board approves getting into the contract with proponent
Nov 16-Dec 1	Develop and sign contract
Dec 1 – Feb 28	Feasibility study conducted
March 18th	EADC reviews information from feasibility
	EADC makes recommendation to Board to move forward with referendum
April 8th	Board Meeting
	Board gives permission to prepare Bylaw
April 12- April 30	Staff prepare Bylaw
May 13	Board Meeting
	Board gives first three readings of the bylaw
May 17 – June 28	Provinces reviews bylaw

June 28-Sept 8	80 day period –Name Election Officer, Community Meetings, advertising requirements, setting general voting day, arranging for the preparation of the ballots, appointing the scrutineers, book halls,
September 11, 2021	Referendum – Must be a Saturday
October 14	Board approves Bylaw
October 14 – Nov 14	Quashing Period – 1 month

Example 2

EADC makes recommendation to the Board to move forward with a creating a new service. No need to conduct feasibility first.

July 16, 2020	EADC meeting
	EADC recommends to the Board to move ahead with a project
August 13th	Board Meeting
	Board gives permission to prepare Bylaw
August 17 – Sept 8	Staff gets permission to hold referendum due to COVID
Sept 9- Sept 29	Staff prepare Bylaw
October 8	Board Meeting
	Board gives first three readings of the bylaw
October 13 – Dec 8	Province reviews bylaw
Dec 8 – Feb 23	80 day period –
	Name Election Officer, Community Meetings, advertising requirements, setting general voting day, arranging for the preparation of the ballots, appointing the scrutineers, book halls.
February 20, 2021	Referendum – Must be a Saturday
March 11	Board approves Bylaw
March 12-April 12	Quashing Period – 1 month

Guidance for Conducting By-elections and Assent Voting During COVID-19

Introduction

B.C is currently in Phase 3 of the safe restart plan. B.C.'s Restart Plan sets out a careful, four-phase approach to restarting the province. Working in concert with public health monitoring from the Provincial Health Officer (PHO), the plan gradually allows for more social and economic activity. The reopening of local governments, businesses and other organizations must comply with public health and safety guidance from the PHO and WorkSafeBC.

While the decisions about when and how to hold an election are up to local governments, the Ministry of Municipal Affairs and Housing (Ministry) recognizes the importance of holding by-elections and assent votes as local governments continue to re-open their communities, take steps to fill vacancies on their councils and boards, and engage their citizens over significant projects and/or borrowing.

This document provides guidance for those local governments considering holding by-elections and assent votes in their communities during the COVID-19 pandemic. Local governments can use the information provided, in conjunction with the *Local Government Act* (LGA) and their election procedure bylaw, to establish clear processes and procedures for these events that incorporate the recommended PHO health and safety measures (including physical distancing) and those set out by WorkSafeBC.

Next Steps for Local Governments

- Assess the procedures and processes for a local government by-election or assent vote to create a plan that considers the health and safety recommendations of the PHO and WorkSafeBC.
- As an employer, local governments will need to develop a COVID-19 Safety Plan using the six step process outlined by WorkSafeBC and post it at the voting place.
- Local governments may wish to check in with the local Medical Health Officer to confirm plans to proceed with a by-election or assent vote.
- Examine the local governments election bylaw to determine whether amendments are needed to assist with safety plans and meeting PHO health and safety guidelines.
- Consider the timing of the by-election or assent vote.
- Appoint the local Chief Election Officer (CEO) after a plan has been developed so there is adequate time for the local CEO to prepare for the by-election or assent vote.
- Review the election bylaw to determine any legislative challenges or barriers that may pose a challenge to mitigate potential COVID-19 risks.

A checklist is provided in the Appendix to assist local governments with planning for local government by-elections and assent votes.

Holding By-Elections and Assent Votes During COVID-19

In response to COVID-19, the Ministry has provided some guidance and highlighted some key resources below that may assist local governments to develop a plan to hold a by-election or assent vote during the COVID-19 pandemic response and recovery.

The nature of by-elections and assent votes traditionally requires many in-person "high touch point" – interactions that can increase the transmission risks of COVID-19 and put electors and election officials at some level of risk. The BC COVID-19 Go-Forward Management Strategy prepared by the Office of the PHO demonstrates how the risk of transmission from social interaction in public institutions is a function of two variables:

1. What is the contact intensity in the setting – the type of contact (close/distant) and duration of contact (brief/prolonged)?
2. What is the number of contacts in the setting – the number of people present in the setting at the same time?

By reducing these variables and other variables (e.g. challenges maintaining physical distance, contact with high-touch surfaces) local governments can help keep people safe, particularly the more vulnerable electors, during the by-election and assent vote processes.

For instance, local governments will likely need to consider how to mitigate the potential risks associated with the following traditionally high-touch points:

- nomination documents;
- solemn declarations;
- official agent appointments;
- scrutineer applications;
- voting books and ballots;
- use of masks if physical distancing isn't always an option;
- high touch surfaces at the voting place (e.g. doors, tables and voting booths); and,
- voting machines.

Key Resources

- The PHO has issued Public Health Orders and developed guidance materials for different sectors, which local governments must consider as they develop their plans.
- The BCCDC is the primary source for COVID-19 health information, including prevention and risk information and commonly asked questions
- WorkSafeBC has developed industry specific safety information including a general guide to reducing risk that may be useful for local governments developing plans for by-election or assent votes.
- The WorkSafeBC COVID-19 Safety Plan template may serve as a useful starting point for local governments to develop plans for a holding a by-election or assent vote.

Local circumstances and the local government's election bylaw will in part dictate the different approaches individual local governments may take in holding a by-election or an assent vote to ensure that electors can exercise their right to vote safely.

Legislative Considerations: Provincial Legislation & Election Bylaws

The LGA and *Community Charter* (Charter) provide the legislative framework for local government by-elections and assent votes. The LGA, Part 4 – Assent Voting specifies that unless otherwise provided, the provisions for elections also apply to assent voting.

Within the LGA, local governments can tailor certain aspects of their local election bylaw including considerations for:

- allowing public access to nomination documents;
- setting additional general, advance or special voting opportunities;
- conducting voter registration;
- using voting machines;
- providing for curb-side voting;
- using mail-ballots and ballot marking pens; and,
- establishing requirements related to scrutineers.

Reviewing the local election bylaw as part of their by-election or assent vote planning process will allow local governments to determine whether changes may be needed to the bylaw (e.g. providing for the use of voting machines) that would help reduce the transmission of COVID-19 during "high touch points" in the electoral process.

Possible areas of legislative challenge include voter registration, mail-ballot voting, and setting additional voting opportunities. After reviewing the local government's election process, if there is a concern with these legislative requirements, please discuss the concerns with Ministry staff to determine what options may be available.

Considerations for Developing a By-election or Assent Vote Plan

A local government plan for a by-election or assent vote can consider the following questions to assess their procedures and processes and inform their decision-making:

- What changes can be made to the processes and procedures to assist the local CEO to administer safer proceedings for election staff and the public?
- What specific health and safety measures may help mitigate the risk of COVID-19 transmission during the elections process and for local circumstances?
- What records can be developed for tracking the time, identity, and contact information of voters and communicating with the public and election staff about any outbreak that might occur at a voting place?
- Is physical distancing possible in the voting place?
- If physical distancing cannot be maintained, then has the local governments considered a multi-barrier approach including physical distancing, engineering and administrative controls such as physical barriers (e.g. plexiglass), directional arrows, occupancy posters, instructional posters and personal protective equipment (PPE)?
- How can the voting places be set up to meet the physical distancing recommendations and health and safety measures of the PHO and WorkSafe BC?
- Is there sufficient PPE including masks for staff and voters?
- Are election staff or volunteers trained in the use of PPE and aware of health and safety precautions for voting places?

The sections below provide some suggestions for health and safety measures local governments may consider as they develop their by-election or assent vote plan.

Notifications

By-elections and assent votes are administered similarly to general local elections and there are several required notifications (e.g. notice of nomination period, notice of advance voting) that must occur during the process.

Given the specific timing of these notifications, local governments may need to account for the timing of the statutory requirements and have a plan in place that considers the COVID-19 pandemic in the broader context prior to appointing the local CEO. The by-election or assent vote must take place within 80 days following the appointment of the local CEO.

Electronic Transactions

The *Electronic Transactions Act* (ETA) applies broadly to most provincial legislation, including Parts 3 and 4 of the LGA. Where there is a requirement to provide information "in writing" the ETA may allow that requirement to be met by submitting the information electronically in a format that can be accessed in the future (e.g. email, pdf or by entering the information into a website administered by a local government). Under the ETA, statutory requirements for signatures may be met using an "electronic signature." This allows certain formal documents, such as those requiring the signature of a witness, to be signed remotely and submitted electronically.

These applications of the ETA may assist local governments when considering procedures for securing nominations, accepting nomination documents, elector registration, official agent or financial agent appointment and scrutineer applications. Local governments that have questions around the application of the ETA may wish to seek legal counsel.

Solemn Declarations Before Voting Day

Candidates, official agents and scrutineers are required to make a solemn declaration. The local CEO can develop procedures for taking in-person solemn declarations safely at the municipal or board offices. The application of the ETA does not apply to solemn declarations.

- Use of face masks by staff and public;
- Consider requesting that individuals make an appointment to meet with the local CEO to give a solemn declaration;
- Practice physical distancing when taking a solemn declaration;
- Consider using a plexiglass barrier or other PPE when taking solemn declarations; and,
- Practice hand hygiene when handling solemn declaration papers and candidate nomination packages.

Mail-Ballot Voting

Consider offering mail-ballot voting to reduce in-person contact and an option for people who may be in self-isolation or in quarantine.

- Discuss with Ministry staff if expanded access to mail-ballot voting could be an option for the local government.

Hiring Election Officials

The local CEO is responsible for hiring election officials for advance, special and general voting opportunities. Local CEO's may need to develop different strategies to ensure they can hire enough election officials during the COVID-19 pandemic.

- Review number of electors for previous by-elections, assent votes, and general local elections at each voting place to help determine the number of election officials that will be required;
- Consider hiring additional election officials to reduce line-ups, help direct electors and reduce contact intensity;
- Procure hand hygiene supplies and PPE that may be needed for election officials and volunteers;
- Ensure that election staff or volunteers are trained in the use of PPE and are aware of health and safety precautions for voting places. Former election officials that are seniors or have compromised immune systems may not be comfortable working during an election while COVID-19 continues to pose a health risk. Applicants must be 15 years or older, be legally entitled to work in Canada and have a valid Social Insurance Number;
- Develop a COVID-19 safety plan for the voting place and post it at the voting place so it is available to those entering (e.g. election staff, volunteers, public);
- Consider also sharing the COVID-19 safety plan for the voting place on the local government website and public notice posting place; and,
- Include a list of the health and safety precautions or the safety plan in recruitment advertising or provide a link to a webpage with the information.

Training Election Officials

- Provide safety measures in accordance with WorkSafeBC guidelines when election officials make their solemn declaration;
- All election officials must be familiar with the election procedures and health and safety measures (e.g., two metres physical distancing, hand hygiene, using face masks where physical distancing is not practical) in place;
- Where possible hold training in the voting place to familiarize the election officials with the layout and directional flow. Consider facilities that are large enough to allow for physical distancing and, if possible, locations with HVAC systems or that provide for fresh air exchange;
- Provide enough PPE for staff;
- Outline guidelines for safe handling of materials (e.g., verifying ID, handling voting books and handing out ballots, counting ballots); and,
- Practice the steps for verifying ID, signing of voting books, handing out ballots, and the ballot count while physically distant.

Voter Registration

The local CEO can determine how best to reduce high-touch interactions for voter registration depending on the type of voter registration used by the local government.

- Consider which method of registration and voters list has the least amount of contact and may reduce line-ups. For example, electors aren't required to show identification if they are on the Provincial voters list or local government register of electors, which reduces a potential high touch point;

- Communicate to the public how to register in advance for general voting day (if available) to reduce the length of time at the voting place and potential for line-ups and recommend use of masks when voting;
- If advance registration applies, create a process that considers physical distancing, use of masks and safe handling of materials;
- If an elector is required to show identification have them place it on the table for the election official to do a visual identification check rather than touching it; and,
- Allow enough space for the elector and election official to remain two metres apart while checking identification and provide for the use of face masks if physical distancing cannot be maintained.

Communication Plan for Electors

Prepare a communication plan early in the local election process that considers COVID-19 and widely promotes health and safety measures. As part of the process for fair and transparent elections consideration needs to be given to how to support public participation in the democratic process during COVID-19.

A proactive communication plan may assist electors to understand the measures that are being taken at voting opportunities to prevent the spread of COVID-19 and available options to take part in the by-election or assent vote.

- Encourage electors to participate in advance voting or to vote at off-peak times at advance, special voting opportunities and on general voting day. For example, if in previous events there have been generally fewer electors in the mid-afternoon, advertise that in advance to the community;
- If mail-ballot voting is an option, encourage eligible electors to vote by mail-ballot to reduce in-person contact and as an option for individuals that are ill, in self-isolation or quarantine and clearly describe the mail-ballot process and eligibility requirements;
- Outline the health and safety measures in place for advance and general voting day;
- Encourage electors to wear a mask if they have concerns about their own health and safety or require assistance to vote from an election official; and,
- Encourage electors to leave the voting place without delay, once they have completed voting.

Advance Voting Opportunities

An advance voting opportunity must be held 10 days prior to general voting day. This required advance voting day allows eligible electors who may not otherwise be able to vote on general voting day to cast their ballots. Local governments with populations greater than 5,000 are required to hold at least two advance voting opportunities.

Local governments may set out in their election bylaws whether additional advance voting opportunities will be offered to help reduce the number of people at the voting place.

- Consider offering additional advance voting opportunities to reduce line-ups and the number of contacts at each voting opportunity;
- Consider how to communicate the use of masks at voting places;
- Discuss with Ministry staff if there are concerns around the number of voting opportunities offered; and,

- The local government may wish to amend their election bylaw to offer additional advance voting opportunities, or in communities of less than 5,000, where the required additional advance voting opportunity was waived, change this decision in the bylaw.

Special Voting Opportunities

Special voting opportunities may be held in any location to provide eligible electors who may not otherwise be able to attend a voting place an opportunity to cast their ballots during a local election. Special voting opportunities are generally held in hospitals, long-term care facilities or other locations where electors' mobility may be impaired. In the COVID-19 context some facilities may not want to host a special voting opportunity or may have specific health and safety measures in place that local governments will need to consider.

Local governments may set out the specific dates, times and locations where special voting will take place during an election in their election bylaws. If special voting opportunities are offered, identify how best to safely hold these events.

- Limit the number of candidate representatives to one and outline precautions they must take (e.g. wearing a face mask) for the safety of residents at the voting place;
- Check with the location where the special voting opportunity is to take place to find out about any required safety protocols; and,
- If available, suggest mail-ballot voting to those who would normally be served by a special voting opportunity.

Curbside Voting

Local governments are required to make voting places as accessible as reasonably possible. If an eligible elector travels to a voting place and cannot easily access the building or room in which voting is taking place, an election official may bring them a ballot.

- Consider a process for bringing an elector a ballot if accessibility is a concern;
- Consider how an election official may safely receive and deposit ballots in ballot boxes if curbside voting is used; and,
- Discuss with Ministry staff if there are concerns around curbside voting.

Preparing the Voting Place

Choosing a Voting Place

Local governments may have to choose a different venue for their by-election or assent vote if the location used previously does not meet the requirements for physical distancing during COVID-19. The legislation allows the local chief election officer to consider voting places outside the boundary or electoral area if there is at least one voting place within the boundary.

- Consider whether previously used voting places have the necessary space requirements for physical distancing;
- Consider whether the location has an HVAC system in the voting place or provides for fresh air exchange (e.g. open windows/doors);
- Determine whether the voting place is available (some facilities may not be allowing outside rentals); and,
- Post the COVID-19 safety plan at the voting place (consider also posting it at the public notice posting place and local government website).

Ballot Box and Ballot Preparation (Materials Handling)

The LGA sets out the form of ballots and ballot boxes. The local government can consider best practices for safe handling of these materials before, during and after the vote.

- Practice proper hand hygiene when setting up ballot boxes and ballots at the voting place;
- Create a process for spoiled ballot that minimizes handling (e.g., a container that Presiding Election Official (PEO) can slide the spoiled ballot into after they mark it as spoiled); and,
- Instead of the election official directly handing the ballot to the elector, place it on the table for elector to pick up.

Solemn Declarations at the Voting Place

Solemn declarations are required for certain circumstances during voting proceedings (e.g. elector registration or if an elector has someone other than an election official assist them mark their ballot or translate). Establish a process for election officials to follow when solemn declarations are required including:

- Ensure proper physical distancing between the elector and the presiding election official or delegated election official during solemn declarations or use of a face mask or protective barrier if physical distancing cannot be maintained;
- Determine frequency to clean pens used to sign a solemn declaration; and,
- Regular washing or sanitizing of hands during the voting proceedings by election officials.

Voting Place Setup

Ensure PHO safety protocols are followed at each voting place. Set-up the voting place to meet physical distancing requirements to reduce high-touch interactions as much as possible. This may include:

- If practical, increase number of voting places for general voting day or advance voting opportunities;
- Arrange the voting place to maintain required physical distance between electors, election officials, and scrutineers during the proceedings;
- Have a greeter at the entrance to request that electors follow safety protocols, including hand washing or sanitization, physical distancing, use of masks if recommended and directional arrows:
    - consider screening questions for electors as they enter (e.g. Do you have any signs or symptoms of COVID-19? Have you been ordered to self isolate by a healthcare professional? Have you been out of the country in the past 14 days?), and,
    - if they answer yes to any of these questions, then there may be a need to provide the elector with an alternative form to vote (e.g. mail-ballot).
- Provide an alcohol-based hand sanitizer with at least 60% alcohol for use before entering the voting place. Consider placing alcohol-based hand sanitizer in other visible, frequently used locations such as registration desks, voting booth, entrance and exits;
- Prominently display posters to promote hand washing, use of masks, physical distancing, and reminding people to avoid touching their faces;
    - BC Centre for Disease Control:
        - Physical Distancing

        - Hand washing and Alcohol-based Rub
- Post occupancy limits for the voting place and limit the number of people in the space (based on five square metres of unencumbered space per person);
- Allow more time for safe set-up of the voting place including:
    - setting up voting booths;
    - tables and chairs for election officials that follow health and safety measures (e.g., double-wide tables for election officials handling ballots and voting books or installing barriers and providing face masks); and,
    - marking floors with tape or cones for electors to follow (e.g., directional arrows and physical distancing spots using tape for standing in line, picking up ballot and submitting ballot to election official or into a voting machine);
- Have separate entrance and exit points to control the flow of people through the voting place;
- Have the voting booths an appropriate distance apart, so individuals can walk while remaining two metres apart;
- Consider the frequency of sanitizing voting booths after each elector; and,
- Ensure bathrooms are supplied with soap, water and drying materials so visitors and election officials can wash their hands. Limit the number of people at a time in public washrooms and establish cleaning and disinfection frequency

Voting Books

Voting books may be a high touch point with multiple people (electors, election officials) touching it to check elector eligibility or have electors sign it.

- Discuss the risk of voting books with Ministry staff and determine if additional measures are needed to mitigate the risk of voting books;
- Assign one election official to be responsible for handling the voting book (verify elector eligibility and have elector sign the voting book);
- Encourage election officials handling voting books to wear a face mask if they are unable to maintain physical distance and practice regular hand hygiene; and,
- Encourage electors to bring their own pen to sign the voting book or if local governments' pens are used, determine the frequency to sanitize the pens.

Automated Voting Machines

If the local government uses voting machines, consideration may need to be given to cleaning procedures for the equipment or pens needed to fill out the ballots.

- Sanitize voting machines after each use. Follow the manufacturer's instructions for all cleaning and disinfection products;
- Determine the frequency to sanitize pens;
- Ensure election officials and electors are practicing hand hygiene before touching pens;
- Ensure physical distancing between election officials and electors using the voting machine and encourage election officials to use a face mask where physical distancing cannot be maintained; and,
- Consider renting additional voting machines to reduce the potential for line-ups.

Voting Assistance

In some circumstances, electors may require assistance to vote. Election officials should be suitably outfitted with PPE if they are required to assist an elector.

- Encourage those electors who require assistance to be accompanied by a close contact to vote and to consider the use of face masks;
- If it is not possible to be physically distant when an election official assists an elector to mark their ballot, consider the use of a face mask and practice hand hygiene; and,
- Follow procedures for solemn declarations when required at the voting place (e.g. for those assisting to mark a ballot or translate) (see section on Solemn Declarations at the Voting place).

Ballot Count

Ballot counting begins after voting places close at 8 p.m. local time. Candidates are entitled to be present during the ballot count and may assign one representative (scrutineer or official agent) to each location where ballot counting takes place. The safety plan for the voting place can consider how to meet the need for physical distancing for those present at the ballot count.

- Encourage election officials handling ballots to practice hand hygiene frequently and to refrain from touching their face;
- Ensure there is space at the ballot count for those observing (e.g., candidates and scrutineers) to be physically distant and if this is not possible encourage those present to wear face masks;
- Place marks on the floor where observers may stand and still reasonably view the marks on the ballot while maintaining physical distancing (if this is not possible consider the use of face masks);
- Consider using a portable plexiglass barrier between presiding officer and the observers; and,
- Election officials conducting the count (PEO or other election official under the supervision of the PEO) may wish to consider wearing a mask if they are not able to maintain physical distance and practice frequent hand hygiene while handling ballots.

For questions related to conducting local government by-elections or assent votes contact the Ministry's Governance and Structure Branch at: lggovernance@gov.bc.ca.

Additional Resources

Learn more about Local Governments and COVID-19
Learn more about Local Government Elections

WorkSafeBC Guidelines and Resources

- Municipalities and COVID-19 safety
- COVID-19 and returning to safe operation – Phases 2 & 3
- Arts and Culture: Protocol for return to operations
- Retail: Protocols for returning to operations
- Selecting and using masks info sheet
- How to use a mask poster
- Designing effective barriers resource
- Cleaning and disinfecting info sheet
- Handwashing poster
- Occupancy limit poster
- Entry check for visitors poster
- Entry check for workers poster

Local Medical Health Officer Contact Information:

- Fraser Health: 1-866-990-9941 or CDPHNs@fraserhealth.ca
- Interior Health: https://www.interiorhealth.ca/AboutUs/Leadership/MHO/Pages/default.aspx
- Island Health: https://www.islandhealth.ca/about-us/medical-health-officers
- Northern Health: https://www.northernhealth.ca/about-us/leadership/medical-health-officers
- Vancouver Coastal Health: http://www.vch.ca/about-us/contact-us/medical-health-officers

Province of B.C.

- B.C.'s COVID-19 website has many resources available at www.gov.bc.ca/covid19.

BC Centre for Disease Control

- The BC Centre for Disease Control (BCCDC) website also has many resources for British Columbians who want more information about COVID-19, at: http://covid-19.bccdc.ca/

WorkSafeBC

- WorkSafeBC, provides information for employers and workers: https://www.worksafebc.com/en/about-us/covid-19-updates

COVID-19 CHECKLIST:

Planning for Local Government By-Elections and Assent Votes in British Columbia

A. PLANNING THE BY-ELECTION OR ASSENT VOTE:

- Have you assessed internal processes and procedures and does your election bylaw require any amendments?
- Have you developed a COVID Safety Plan for employees, staff and the public for election day?
- Is your plan and processes aligned with health and safety recommendations of the Provincial Health Officer and WorkSafeBC (e.g. physical distancing, voting place considerations and related "high touch" interactions)?
- Have you considered contacting the local Medical Health Officer about proceeding with a by-election/assent vote?
- Have you considered the timing of the by-election or assent vote in relation to broader circumstances (e.g. holidays or back to school)?
- Have you considered community needs in case there is a future spike in COVID-19 cases?
- Have you identified any legislative barriers that challenge your ability to plan or mitigate COVID-19 risks (e.g. relating to nominations, voting, or voter registration)? (*See C. below for Provincial supports that may be available*).

B. OPTIONS AVAILABLE FOR REDUCING HIGH TOUCH POINTS *(General tips that election officials could consider)*

Have you considered…	How this might reduce high touch points or in-person interactions
☐ Using electronic signatures	Under the *Electronic Transmissions Act*, certain formal documents that require the signature of a witness may be signed remotely and submitted electronically. Local CEO's can develop procedures for the electronic submission of nomination or appointment documents (official agents and scrutineers), among others.
☐ Taking solemn declarations in advance	Developing procedures for taking in-person solemn declarations before voting day at the municipal or board offices (e.g. by making appointment and following physical distancing) may assist with managing in-person interactions.
☐ Hiring additional election officials	Hiring additional election officials may reduce line-ups, help direct electors, and reduce contact intensity during voting.
☐ Increasing the number of voting places	Having a greater number of voting places available for voting day (or advance voting, if practical) may reduce the number of voters in one location at any given time.
☐ Nominations documents	Consider expanding public access to nomination documents (electronically or online) to reduce in-person viewing at local government offices.

C. PROVINCIAL SUPPORTS *(Possible legislative adjustments to overcome identified barriers to election planning)*

Discussion areas	How a Ministerial Order organized through the Ministry may assist
☐ Using the Provincial voters list for registration	Consider which method of registration and voters list may reduce the amount of contact between electors and election officials and reduce line-ups on voting day.
☐ Advance voting	Consider increasing the number of advanced voting opportunities that are available or currently provided for in the election bylaw to better distribute voting opportunities for electors.
☐ Mail ballot voting	Consider providing for or expanding eligibility for mail ballot voting opportunities beyond what is currently available in the election bylaw to reduce the number of electors voting in-person and increase accessibility to the voting process.
☐ Candidate nominations	Consider reducing the minimum number of nominators that a candidate is required to secure in the election bylaw to two (2) if 10 or 25 are currently required.
☐ Special voting opportunities	Consider limiting the number and/or places of special voting opportunities, if any, required in the election bylaw to protect vulnerable electors.
☐ Curbside voting	Consider how curbside voting opportunities can be managed to support health and safety.
☐ Voting books	Consider additional measures to manage the handling of voting books.
☐ Automated voting machines	Consider providing for the use of automated voting machines if not authorized in the election bylaw.

➔ **Contact the Ministry of Municipal Affairs and Housing to discuss at: lggovernance@gov.bc.ca or at 250 387-4020.**

PEACE RIVER REGIONAL DISTRICT

REPORT

To: Electoral Area Directors Committee Report Number: CS-COW-001

From: Trish Morgan, General Manager of Community Services Date: June 15, 2020

Subject: Transferring Community Recreation Facilities

RECOMMENDATION: *[Corporate Unweighted]*

That the Committee of the Whole receive the June 15, 2020 report titled "Transferring Community Recreation Facilities" for discussion.

BACKGROUND/RATIONALE:

The PRRD has title or license to 13 rural community recreation grounds and facilities (hereinafter called 'properties'). These properties have been acquired over a number of years, for a number of purposes, to fulfill an important role as community hubs and gathering spaces. Many of the properties owned by the PRRD have been acquired through Free Crown Grants, transfers from Provincial Ministries, or through the private sale or donation. Acquisition of these properties has taken place since the late 1970s.

The properties in question are:

- Area B
  - Buick Creek Recreation Grounds
  - Cache Creek Community Hall
  - Golata Creek Community Hall and Recreation Grounds
  - Goodlow Recreation Area (formerly Moose Creek)
  - Halfway Community Hall
  - Halfway Community Gymkhana Grounds
  - Northland Trailblazers Recreation Grounds and Chalet
  - North Peace Fall Fairgrounds
  - Osborn Community Hall
  - Rose Prairie Grounds
- Area D
  - Kelly Lake Community Centre
- Area E
  - Jackfish Community Centre
  - Moberly Lake Community Centre

The Regional Board passed the following resolution on May 7, 2020

MOVED, SECONDED, and CARRIED

That the Regional Board be provided with a report on options for transferring ownership of Society run Peace River Regional District recreational facilities to the Societies that operate/lease them at a future Committee of the Whole meeting.

Considerations for Transfer of PRRD Owned Properties

The following considerations may impact the process of transferring of PRRD owned or leased properties.

Regional Parks Bylaw

Bylaw 860, 1994 provides for the regulation and use of community and regional parks. At the time of its adoption (1994), a number of the properties in question were included within the bylaw. At this time, it is unclear whether the inclusion of these properties in a regulatory bylaw as a Regional or Community Park gives these properties 'park' status; however, identification of these parks in this bylaw is at least an indication of possible formal park status. The following mechanisms may have been used to dedicate the properties as regional or community parks:

- Resolution by the Regional Board
- Landowner dedication as a park by depositing a plan in the land title office
- Dedication by bylaw (affirmative vote by at least 2/3 of all Regional Board members)
- Dedication of a regional park under the *Park (Regional) Act* (repealed)
- Transfer in trust from a private landowner

In order to determine whether a property is a regional park, further information would need to be gathered regarding the particular properties for a legal review. Should a legal review confirm that properties are regional or community parks, there are additional considerations that may affect the transfer process.

If a property was dedicated or reserved as a park as described above, the Regional Board must adopt a bylaw to cancel the dedication or reservation in order to dispose of the property, and the Regional Board may only adopt the bylaw if it first receives the approval of the electors of the entire region (can be obtained by way of an Alternate Approval Process or Assent Voting). The PRRD must also place any money received from the sale in a reserve fund to acquire alternate regional parks, community parks, or trails.

At this time, of the 13 properties in question, only the North Peace Fall Fair has been identified as a regional park by the PRRD's legal counsel, as it was dedicated by resolution of the Regional Board. Further investigation is needed to determine if any of the other 12 properties are considered regional or community parks.

'Regional Parks' without Park Status

If these properties do not have legal status (that would attract the statutory or other restrictions on how parks may be used or sold) the PRRD can use the land as a park, without any legal formality, and may be free to cease using such land as park. The PRRD could also sell the land, without going through any type of public approval process, or having to apply to the court or to the Province. The Regional Board could simply pass a resolution to authorize the sale.

Specified Use

The PRRD has title to nine community recreation facilities, eight of which were obtained from the Crown and one that was purchased in a private sale.

Where the PRRD has obtained title to a piece of land through a Crown Grant, the Crown included restrictions on the title for how the property is to be used. For the eight properties acquired through the Crown, the title extends "for so long as the land is used for community recreation purposes". Should the land NOT be used for the purpose specified in the Crown Grant document, the Minister may cancel the disposition (title). Therefore, it may be possible for the PRRD to transfer the properties, but the Societies will be required to continue to use the properties as stipulated on the title. In order for the PRRD to sell an affected property to a society free of such a use restriction, the Crown would need to release the 'specified use' condition. The Crown may expect to receive fair market value in return for giving up these use restrictions.

It may be possible to change the specified use of the properties but this would require an application to the Province. For instance, if the PRRD wanted to co-locate another community amenity that is not for recreational purposes (such as a cistern to supply water for fire protection), the PRRD could apply to add such a use.

For the title privately obtained, the PRRD is under no restriction for use upon sale, but the transfer still may be affected by other factors, such as a regional park dedication.

Agricultural Land Reserve Restrictions

Many of the properties either owned or tenured to the PRRD are within the Agricultural Land Reserve. In many cases, through the acquisition process for the properties, the Agricultural Land Commission provided approval for non-farm use. Should the Regional Board be in favour of transferring properties that have been approved for non-farm use within the ALR, it will need to be noted as a condition of transfer/sale.

Co-Located Facilities

Two of the properties in question are co-located with other PRRD assets. In the first case of the Northland Trailblazers, the Society subleases part of Montney Centennial Park, which is tenured to the PRRD through a License of Occupation. The second being the Moberly Lake Community Hall, which is located on the same property as the Moberly Lake Volunteer Fire Hall. The PRRD may be able to pursue a subdivision of these properties, though this would require the authorization of both the Ministry of Transportation and Infrastructure and Northern Health.

Notice of Disposition

Prior to the Regional Board selling or leasing (or even entering into an agreement to sell or lease) a property to a non-profit Society, the PRRD must publish notice of the intended disposition in a newspaper. The PRRD is not required to provide a public acquisition opportunity here, as the proposed transfers are to non-profit organizations; however it should be confirmed that each proposed transferee Society is incorporated and in good standing and is not member-funded.

Notice of Assistance

If the Society will be paying a purchase price (or lease rent) that is less than fair market value, the PRRD will be providing 'assistance' to a Society. Pursuant to the *Local Government Act*, the PRRD may provide such assistance if it considers the assistance will benefit the community. The PRRD must

publish a newspaper notice of its intention to provide such assistance, before it sells or leases, or even enters an agreement to sell or lease.

"Reverter" Clause

Another consideration that may affect the transfer of properties to the Society operators is the 'reverter' clause found in the four properties tenured through a License of Occupation, as well as eight of the nine properties acquired as a free crown grant. Should the PRRD no longer require the tenure, the license documents state that the land is to be 'reverted' to the Crown.

A condition subsequent, or the possibility, of reverter does not prevent the PRRD, as the owner, from selling the affected land but it does require that the PRRD obtain consent of the Crown to do so. The Society, as a new owner of the land, would take ownership of the property, subject to the possibility of the reverter clause. The Society would then be restricted from selling the land in the future, and if no longer required, would be returned to the Crown.

In order for the PRRD to sell an affected property to a society free of 'reverter' status, the Crown would need to release the condition, and the Crown may expect to receive fair market value in return for giving up these use restrictions.

Other Charges

There may be other charges on the title to a property that could affect a proposed disposition (for example, judgements, certificates of pending litigation, options to purchase, and rights of first refusal). Each property would require a legal review to understand potential implications.

Liability Issues

The PRRD, through the terms of a transfer agreement with a Society, may to some extent be able to transfer risk and liability associated with the property to the Society, provided that the Society is willing to accept such terms. However, it is possible for the PRRD to have continuing risk and liability after it has been transferred. Accordingly, before committing to the transfer, it is recommended that investigation be completed, specifically in relation to the environmental condition of the property.

Transferring Ownership of Properties

The following are options for transferring properties, should the above conditions be met:

Sell Properties for Fair Market Value

The PRRD could initiate the sale of any properties that it has title to. Current property assessment valuation could provide a basis for determining market value. Property transfer tax may apply as a result of the sale.

Sell Properties for $1

The PRRD could initiate the sale of any properties that it has title to for a less-than-market value, as approved by the Regional Board.

Leasing (long-term) Properties Owned by the PRRD

The PRRD may wish to consider disposing of the property by way of a long-term lease, rather than a sale if the PRRD has a continuing interest in the property. This would give the PRRD better assurances that the expected use of the property would continue for as long as the PRRD requires. The PRRD may, under such a lease, give the Society substantial control over the property for the term of the lease (which may be long-term), while including basic requirements as to use. This would give the PRRD the ability to cancel the lease if the Society ceases to exist or ceases to operate the property as a public park or community recreation facility or amenity.

Leasing (long-term) Properties Leased (through a License of Occupation) to the PRRD

Where the PRRD does not own the land in fee simple and has only a License of Occupation from the Province, the PRRD cannot lease the land and it must continue to sublicense (or transfer the lease, as discussed below).

Transferring Lease of Crown Land Properties Tenured to the PRRD

To transfer the PRRD's interest in a lease of provincially owned land (any properties tenured under a License of Occupation) the PRRD would assign the lease to the receiving Society. Each lease would include provisions addressing the ability of the PRRD to make such an assignment. It is likely that a consent from the Province will be needed for each property in order for the PRRD to assign a lease to a non-profit Society. A newspaper notice of the PRRD's intention to dispose of the land will be required.

Operation of Community Halls as a Regional District Service

Beyond the Recreational and Cultural Grants-in-Aid program, fundraising, and outside grant funding, most of these community halls receive no funding for the upkeep, operation, or capital improvements for the facilities – with the exception of the Kelly Lake Community Centre, where there is a service function to provide for operations, maintenance and capital upgrades. It is generally understood that many of the societies have been struggling with volunteer capacity for fundraising, maintenance, etc. There has also been an increase in requirements governing the use of these facilities (e.g., more recently COVID-19 requirements, liquor control for events, changes to the BC Building Code impacting capital upgrades, WorkSafe BC), which put stress and pressure on the remaining volunteers. Should the PRRD choose to keep these properties, it may be possible to provide funding either through the establishment of a local service area, or one that covers the entire electoral area, to assist with funding. If the Regional Board chooses to operate the properties as a PRRD service, it will need to adopt an establishing bylaw for the service(s) and would be required to conduct an elector approval process.

Pros and Cons of Transferring Ownership

Volunteerism

Although groups of very enthusiastic volunteers, who are committed to the facilities, operate the facilities, volunteerism is on a steady decline in the PRRD and across the country. Long-term volunteers are generally scarce and the ability to comply with Provincial legislation, WorkSafe standards, and best practices, while fundraising and providing community events, can put significant pressures on the volunteers and the societies. Many of the societies have noted challenges in recruiting and retaining volunteers, and as a result some have come close to going defunct (even in

the last year). Many societies have experienced challenges in completing capital projects that are funded via electoral area grants, due to low number of volunteers to complete the work.

If any of the properties are transferred to the operating societies, it will be important to include language in the transfer agreement that if the society goes defunct, that the property will be transferred back to the PRRD.

Capital Replacement Considerations & Asset Management

The PRRD cannot borrow funds for capital infrastructure (replacement, upgrades, etc.) on properties that are not owned by the PRRD. Many of the properties are nearing the end of their useful life and consideration needs to be given to whether they should be replaced and if so, how the replacement costs will be funded. Should the PRRD transfer the properties to the operating Societies, the PRRD will effectively be giving up the opportunity to create a local service area to raise money for capital replacement or upgrades.

In 2014, the PRRD conducted a facility inventory and conducted a high level condition assessment of most of the properties in the North Peace (see facility profile for each assessment).

Name of Facility	Age of Facility	Estimated Remaining Useful Life As of 2015	Asset Condition Rating (scale 1-10)
Golata Community Hall	61 years	5 years (2020)	2.0
Cache Creek Community Hall	30 years	10-15 years (2025-2030)	4.0
Goodlow Recreation Grounds (formerly Moose Creek Gymkhana)	37 years	Indefinite	1.0
Halfway Community Hall	30 years	15-20 years (2030-2035)	4.0
Halfway Rodeo Grounds	40 years	Indefinite	2.5
North Peace Fall Fair Grounds	70 years	Most buildings 15 years (2030)	4.5
Osborn Community Hall	40 years	10 years (2025)	2.5

Osborn Community Hall

In 2019, a more detailed condition assessment of the Osborn Community Hall was conducted to determine whether to replace the facility or to consider building a new facility. As a result of the condition assessment, the following resolution was passed by the Regional Board on November 28, 2019:

> *MOVED, SECONDED, and CARRIED*
> That the Electoral Area 'B' Director and PRRD staff be authorized to meet with the Osborn Community Hall Society to further review the "Facility Conditional Assessment Report – Osborn Hall" and discuss options to remediate the facility or investigate a new facility.

In February of 2020, the Rural Budgets Administration Committee reallocated the remaining financial commitment to the Osborn Facility Condition Assessment ($13,828) to further study the following:

- Determining the needs of the community
- Bringing forward options and costs for a replacement (modular unit)
- Costs of demolition and site servicing

Once the study is complete (as outlined above), the Electoral Area Director and Regional Board, in consultation with the operating society, will need to consider how, or if, to fund the replacement of the Osborn Community Hall.

Kelly Lake Community Centre

The Kelly Lake Community Centre is a well-used community asset, and the only public gathering space in Kelly Lake. The facility is in need of a major renovation to ensure that the Centre is safe and accessible for years to come. A detailed Facility Condition Assessment and Design Study were completed in 2019 in order to gather sufficient information and create design options to apply for grants to offset the cost of the anticipated renovation. Before moving forward any further, a hazardous materials study will be completed during the summer of 2020 to further inform the renovation process.

In February of 2020, the Rural Budgets Administration Committee passed the following resolution;

> *MOVED, SECONDED, and CARRIED*
> That the Rural Budgets Administration Committee allocate $15,000 from Gas Tax to the Kelly Lake Community Centre 2020 budget (Function 225) for the purpose of conducting a hazardous materials study, in preparation for conduction further renovations of the facility and amend the 2020 Draft Budget for Function 225 – Kelly Lake Community Centre to:
>
> 1. Increase Transfer from Gas Tax Reserve - $15,000
> 2. Increase Contract for Services - $15,000

Prior to transferring ownership, the PRRD may wish to conduct detailed condition assessments on the properties to inform both the societies that may be receiving the property and PRRD of the remaining useful life, necessary capital upgrades, and the costs to fund repairs or whether replacement of the entire facility is needed.

Insurance Considerations

The PRRD pays for the property insurance on all PRRD owned facilities. The cost of insurance for these properties is $8,600 annually under the Regional District's insurance policy. Should the PRRD relinquish ownership of these properties, the insurance costs would be borne by the operating societies, and it is expected that the costs will be far greater than what is currently paid through the Municipal Insurance Association.

Taxation Considerations

Local governments are not required to pay property taxes on community or institutional facilities. Should the Regional Board sell or transfer properties to the operating societies, they would have to pay the additional expense of property taxes. In 2013, the Regional Board passed a policy stating that the PRRD would not grant permissive tax exemptions.

Future Use & Ongoing Interest

While many of the properties have restrictions on the use of the property for "community recreation only", the Regional Board may wish to consider if holding the properties for future development of other community uses is important. For instance, depending on the size of the property, could a fire hall, water tankloader facility, recycling drop off, etc. be sited on the property in the future? (subject to approval of the Crown) If so, the Regional Board may wish to consider whether relinquishing a property is in the best interest of the PRRD and the tax payers in the long-term. Further consideration should be given to the follow questions:

- Does the PRRD expect the property to continue to be used as part of a PRRD service? If yes, then operating agreements should be updated or maintained.
- Does the PRRD wish to restrict the use of the property? If yes, then the PRRD may wish to consider requiring the registration of a Section 219 covenant on title to the property, setting out the restricted use.
- Does the PRRD wish to re-acquire the property after a period of time or if the society ceases to operate the property? If yes, the PRRD may wish to register an option to re-purchase the property or by placing a possibility of reverter on the properties in favour of the PRRD.

Next Steps

The initial steps to transfer properties, no matter how they were obtained or what restrictions were placed upon them, are as follows:

1. Legal review of the title to properties and charges.
2. Identify applicable Regional District bylaws and resulting requirements.
3. Review documentation respecting Regional District acquisition and administration of properties as parks, to determine if they have legal park status.
4. Consider whether an environmental investigation is required.
5. Identify and review leases, licenses, contracts and other agreements pertaining to the properties.
6. Consider ongoing operating, maintenance, repair, and replacement costs with respect to the property and potential need for PRRD role/contribution.
7. Consider PRRD interest in the property for both current and future use.
8. Determination of what ongoing interest, if any, the PRRD wishes to have in a property, should it be transferred to a society.

Should the Regional Board be in favour of moving forward with the process to transfer properties to their respective operating societies, additional research will be required:

- What is the desire of the community associations that operate these facilities?
- What is the desire of the public to transfer these properties?
- Review of PRRD bylaws pertaining to the property and park services to determine if any amendments are required or any other steps that need to be taken in relation to the applicable service.

ALTERNATIVE OPTIONS:

1. That the Committee of the Whole identify and prioritize the society run properties that are owned or licensed by the PRRD, and recommend that the Regional Board investigate the identified properties to

determine the requirements of transferring those properties to the operating societies; further that the Committee of the Whole recommend that the Regional Board authorize consultation with the operating societies to determine their interest in obtaining the properties they operate.

2. That the Committee of the Whole provide further direction.

STRATEGIC PLAN RELEVANCE:

☒ Not Applicable to Strategic Plan.

FINANCIAL CONSIDERATION(S):

Should the Regional Board pursue further investigation on transferring properties to operating societies, there will be expenses for legal review. Staff time will be required to research historical records and files to determine whether there are official dedications to community or regional parks.

COMMUNICATIONS CONSIDERATION(S):

None at this time.

OTHER CONSIDERATION(S):

None at this time.

Attachment:

1. Property Profiles
2. PRRD Owned Community Halls Presentation

Buick Creek Recreation Grounds Profile

Location: 15349 Rodeo Rd, Buick BC

Operator: Buick Creek Community Club

Facility Description:

- Property 30.54 hectares
- Estimated 2,000 SF
- Built in 1980's, with minor renovation/expansion since
- 1982 listing for the Regional Parks Function shows Buick Creek as a rodeo ground, also included in Bylaw 860, 1994.
- Grounds included grandstands, a catchpen, a holding pen, announcer's booth, riding arena, calf chutes, and a service building.

Assessed Value: N/A as not surveyed

Estimated Remaining Service Life: Less than 5 years (2015 NP Facility Assessment)

Detailed Facility Condition Assessment Completed: No

Title/Lease Obtained:

- Crown Land License of Occupation (License No. 815982) was renewed in April, 2018, to the Peace River Regional District, for 30 years.
    - No current Use and Occupancy Agreement in place
    - No sub-lease consent from the Province for the Buick Community Club to use.
    - License of Occupation can be terminated by the Regional District
    - In 1983, the ALC allowed the PRRD's application to subdivide one ten acre parcel.

PRRD Grants Received since 1996: $142,977

Regional or Community Park:

- Included in PRRD Regional Park Bylaw No 860, 1994
    - No resolution to designate facility a Regional or Community Park has been found.

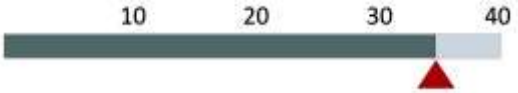
Asset:
Buick Creek Community Hall (Rural)

Location: Buick Creek, unincorporated

Ownership: Buick Creek Community Club

Rating: 2.0 (scale of 1-10)

Remaining service life: Less than 5 years



Strategic value: Redundant asset.

Description: Stand-alone community hall with kitchen and washrooms. Community focus has shifted to arena and community also has access to school gym (no liquor).

Exterior

Year built: 1980's according to club
Year renovated/expanded: Minor

Square footage: Estimated 2,000 SF

Utilization: Seldom used in recent years. Poor.

Functionality: Adaptable but small. Fair.
Occupant load: 30-50. Good.

Building type: Wood frame on crawl.

Interior

Foundation: Perimeter concrete. Poor.

Envelope: Wood frame.

Roof: Wood frame, shingles.

Interior: Plywood, paper tile ceiling. Poor.

Mechanical: Gas heat, aging. Poor.

Kitchen: Residential quality. Good.

Washrooms: Adequate for load. Good.

Code compliance: Combustible construction, no fire suppression, alarms or signage. Poor.

Handicapped access: None. Poor.

Appearance: Neglected. Poor.

Site amenities: Post office outbuilding.
Parking: Gravel. Fair.
Site secured: Fenced. Good.

Capital interventions anticipated:
Roof needs replacement. Envelope and interior in very poor condition.

Additional observations:
Facility redundant except for liquor licensed assemblies (few in numbers).

Upper Cache Community Hall aka Cache Creek Community Recreation Area Profile

Location: Upper Cache (unincorporated), 17031 Robinson Road

Operator: Cache Creek Community Club

Facility Description:

- The hall is a doublewide portable classroom-type structure, outbuilding playground, and outdoor rink
- Built in the late 1900's and early 2000's with an addition of a shed in 2010.
- 1,000 SF plus 200 SF Shed and outhouses, 17.43 hectares.

Assessed Value: $79,600

- **Land** $79,600
- **Buildings** $0

Estimated Remaining Service Life: 10 – 15 years (2015 NP Facility Assessment)

Detailed Facility Condition Assessment Completed: No

Title/Lease Obtained:

- Title Certificate issued in 1987
    - 2002 the Land Use Agreement was renewed to a further 5-year term.

PRRD Grants Received since 2000: $46,551

Regional or Community Park:

- Included in the PRRD Regional Park Bylaw No 860, 1994
- No resolution to designate facility a Regional or Community Park has been found.

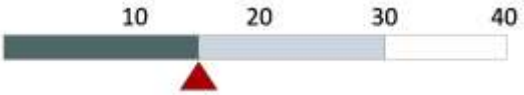
Asset:
Upper Cache Community Hall (Rural)

Location: Upper Cache, unincorporated.

Ownership: owned by PRRD, operated by the Cache Creek Community Club

Rating: 4.0 (scale of 1-10)

Remaining service life: 10-15 years



Strategic value: Isolated rural community, remote (>45-minute drive to Charlie Lake).

Description: Double-wide portable classroom-type structure, outbuilding, playground (in disrepair) and outdoor rink (abandoned).

Exterior

Year built: late 1990's, early 2000's.

Year renovated/expanded: Shed added in about 2010.

Square footage: 1,000 SF plus 200 SF shed and outhouses

Utilization: Low, but community is small.

Hall, playground and outdoor rink to left

Functionality: Good for intended use.

Occupant load: 20-30. Good.

Building type: Manufactured portable.
Foundation: Post on pads, crawlspace.
Envelope: metal on steel stud, insulated.
Roof: Metal, steel truss, t-bar ceiling.
Interior: Plywood wall panels.

Mechanical: Gas heater. Fair.
Kitchen: Kitchenette. Poor.
Washrooms: Outhouses.

Code compliance: Non-combustible, marginally-conforming. Fair.
Handicapped access: Ramp but not HC accessible. Poor.

Appearance: Fatigued and damaged. Poor.

Site amenities: Damaged play apparatus.
Parking: Gravel. Adequate area.
Site secured: Fenced.

Capital interventions anticipated: Overall poor condition and eventual replacement may make more sense than repairs.

Additional observations: Evidence of not enough manpower to deal with routine maintenance.

Golata Creek Community Hall Profile

Location: 6161 Golata Creek Road, Golata

Operator: Golata Creek Community Society

Facility Description:

- Property 15.82 ac
- 2,000 sqft
- Occupant local 30-50 people
- The original Community Hall was built in 1959, with an addition added in 1978, kitchen added in 1987, plumbing added in 2009.
- The facility is comprised of the original community hall and the former Golata Creek School building.
- Grounds include horseshoe pits, a ball diamond and campground with outhouses.

Assessed Value: $160,300

- **Land** $54,400
- **Buildings** $106,000

Estimated Remaining Service Life: 5 years (2015 NP Facility Assessment)

Detailed Facility Condition Assessment Completed: No

Title/Lease Obtained:

- PRRD obtained title at request of society in 1986
    - The certificate of title may be affected by the ALC Act.
    - Undersurface rights are registered to the Crown.
    - The possibility of reverter is to the Crown.
    - To be used for Community Purposes only.

PRRD Grants Received:

- Recorded in Vadim since 2005 = $106,096.92
- Rural Grants-in-Aid = $107,591

Regional or Community Park:

- Included in PRRD Regional Park Bylaw No 860, 1994

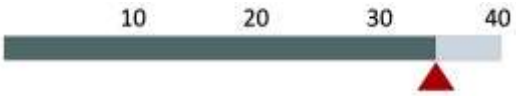
Asset:
Golata Community Hall (Rural)

Location: Golata, unincorporated

Ownership: owned by PRRD, operated by Golata Creek Recreation Society

Rating: 2.0 (scale of 1-10)

Remaining service life: 5 years



Strategic value: Remote location, decreasing use.

Description: Community hall east of FSJ and about ½ hour drive south of Clearview. Portable (kitchen, indoor washrooms) added to hall in 1980's.

Exterior

Year built: 1959

Year renovated/expanded: Kitchen added 1987, plumbing 2009

Square footage:2,000 SF

Utilization: Less than 5 times/week. Poor.

Functionality: Single-purpose, not adaptable. Poor.

Occupant load: 30-50.

Entrance

Building type: Wood frame on crawlspace.
Foundation: Posts on concrete spread footings. Poor.
Envelope: Wood frame; portable likely steel stud framing. Poor.
Roof: Metal pitched. Poor.
Interior: Lino, plywood wall panels. Poor.

Mechanical:
Kitchen: Residential. Fair.
Washrooms: Adequate for load. Fair.

Code compliance: Combustible construction, no fire suppression, not to fire code. Poor.

Handicapped access: No.

Appearance: Building and site not maintained. Poor.

Site amenities: None.
Parking: Gravel, overgrown.
Site secured: Fenced.

Capital interventions anticipated:
Roof needs replacement or major repairs (re-occurring). Envelope and interior in very poor condition.

Additional observations: Questionable viability of asset, but community is attached to the facility.

Goodlow Recreation Area Profile

Location: Those parts of the S 1/2 & NE ¼, Section 35 and the SW 1/4 , Section 36, Township 84, Range 15, W6M, Peace River District.


Operator: Goodlow Community Club

Facility Description:

- 2.0 acres
- Formerly Moose Creek Gymkhana Grounds (1983 – 2014)
    - Development of the Gymkhana started in 1986
    - Currently, the community group is undertaking to redevelop into a campground with a playground and to develop a ball diamond.
- Has two small buildings, playground equipment, picnic tables and fire pits

Assessed Value: N/A

- **Land**
- **Buildings**

Estimated Remaining Service Life: Indefinite (2015 NP Facility Assessment)

Detailed Facility Condition Assessment Completed: No

Title/Lease Obtained:

- Crown License to the Peace River Regional District
    - License of Occupation (No. 815530) renewed in 2014, for a 30 year term
- Sub-leased to Goodlow Recreation Commission, commencing June 1 2019 and ending June 1, 2024.
    - Possibility of reverter is to the Crown, for community recreation purposes only (on title)

PRRD Grants Received since 2011: $110,633

Regional or Community Park:

- Listed in Bylaw 860, 1994.

Asset:
Goodlow Campground and Ball Diamond

Location: Former Moose Creek Gymkhana grounds in Goodlow

Ownership: Crown license to PRRD, sub-leased to Goodlow Recreation Commission

Rating: 1.0 (scale of 1-10)

Remaining service life: Indefinite.

Strategic value: Adaptive re-use of a community asset.

Description: Community group undertaking to redevelop the defunct gymkhana into a campground with playground and to develop a ball diamond.

Campground view with outbuildings

Year built/improved: Redevelopment starting in 2014

Site Area: Approximately 2.0 acres

Utilization: n/a.

Inventory: Two small dilapidated outbuildings.

Groundcover: Gravel, grass, bush.

Access to washrooms: Outhouses.

Playground and picnic area

Site furniture: Residential quality playground equipment, picnic tables and fire pits.

Code compliance: Not CSA conforming.
Handicapped access: No.

Appearance: Too early to assess.
Site amenities: None.
Parking: Gravel in campsites.

Site secured: No. Some previous fencing retained.

Capital interventions anticipated:

Money being spent on chain-link backstop for ball diamond. Future additional funds will be spent clearing and developing additional campsites and infrastructure.

Additional observations:

This is a very modest volunteer-driven effort in the small rural community. Aspirations and expectations are low and likely attainable. Additional funding support may be requested.

Halfway-Graham aka Halfway aka Upper Halfway Community Hall Profile

Location: 22380 Highlands Subdivision, Upper Halfway (Lot 2 of District Lot 1323, Plan 26538)

Operator: Halfway Graham Community Club

Facility Description:

- Built in 1983
- Approximately 2,500 SF
- Property is 2.11 hectares
- Used as a gym by the local school
- Hall was re-roofed in 2003

Assessed Value: $47,900 (Hall and Gymkhana)

- **Land** $17,200
- **Buildings** $30,700

Estimated Remaining Service Life: 15 – 20 years (2015 NP Facility Assessment)

Detailed Facility Condition Assessment Completed: No

Title/Lease Obtained:

- Reverter clause on property to the Crown
- May be affected by the ALR (Plan No. 21608, deposited July 2, 1974)
- Peace River Regional District has had title to property since 1983
- Land Use Agreement last signed 2001

PRRD Grants Received since 1997 to Club: $40,395

Regional or Community Park:

- Included in Bylaw 860, 1994.

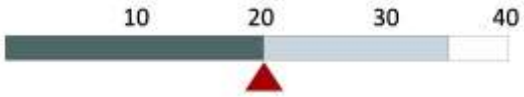
Asset:
Halfway Community Hall (Rural)

Location: Upper Halfway, unincorporated.

Ownership: owned by PRRD, operated by the Halfway Graham Community Club

Rating: 4.0 (scale of 1-10)

Remaining service life: 15-20 years



Strategic value: Valuable asset to a remote community, used as gym by local school.

Description: Small community hall. Adjacent to schools, playground and field, as well as rodeo grounds across road.

Exterior

Year built: 1990's.

Year renovated/expanded: Unknown.

Square footage: Approx 2,500 SF

Utilization: Day use by school, infrequent evening use. Good.

Functionality: Versatile. Fair.

Occupant load: 30-50. Good.

Building type: Wood frame re-clad in corrugated metal.

Interior

Foundation: Crawl, posts on spread footing. Fair.
Envelope: Raised-seam metal. No windows. Very good.
Roof: Pointed arch. Integrated with walls.
Interior: Plywood floor and walls. Fair.

Mechanical: Propane heat. Fair.
Kitchen: Residential, in disrepair. Poor.
Washrooms: Wood outhouses. Poor.

Code compliance: Combustible, no sprinklers, fire extinguished. Fair.

Handicapped access: Ramp but not HC accessible. Poor.

Appearance: Maintained. Good.

Site amenities: Rodeo grounds across road, school site amenities.
Parking: Gravel, abundant. Good.
Site secured: No.

Capital interventions anticipated: Interior finishes and flooring, kitchen and lighting in need of upgrade. Outhouses in poor condition.

Additional observations: Worth maintaining. Important asset to a very isolated community.

Halfway-Graham Rodeo Grounds, aka Upper Halfway Gymkhana Grounds Profile

Location: 22380 Highlands Subdivision, Upper Halfway

Operator: Halfway Graham Community Club

Facility Description:

- Used as a rodeo grounds for the Upper Halfway Community
- Developed in the 1980's
- The grounds consist of a fenced arena, bleachers, official's booth, and open space for animal holding and spectator movement.
- Some land improvement was done in 1986
    - 10 – 12 aspen/poplar trees were removed
    - Grounds cleanup (rocks and other debris)
- Property is 2.91 hectares

Assessed Value: $47,900 (hall and Gymkhana)

- **Land** $17,200
- **Buildings** $30,700

Estimated Remaining Service Life: Indefinite (2015 NP Facility Assessment)

Detailed Facility Condition Assessment Completed: No

Title/Lease Obtained:

- Transferred from the Crown in 1988 to the Peace River Regional District
    - PRRD was the registered owner in fee-simple
    - In the ALR
    - Possibility of reverter to the Crown
- Land Use Agreement Bylaw No. 1366, 2001

PRRD Grants Received since 1997, to Club: $40,395

Regional or Community Park: Not included in Bylaw 860, 1994

Asset:
Halfway Graham Rodeo Grounds

Location: Upper Halfway

Ownership: PRRD (owner); Halfway Graham Community Club (operates)

Rating: 2.5 (scale of 1-10)

Remaining service life: indefinite

Strategic value: Low. Local, infrequent use.

Description: Rodeo grounds consists of fenced arena, dilapidated bleachers and officials booth and open space for animal holding and spectator movement.

Rodeo grounds

Year built: Estimated 1980's

Year renovated/expanded: Unknown

Square footage: Aprox 2.0 acres

Utilization: Once a year, plus sporadic individual use.
Functionality: Low.

Occupant load: 50 spectators plus participants.

Spectator area

Building type: Wood-frame shed.
Foundation: Wood on concrete pads. Poor.

Envelope: Un-insulated plywood. Poor.
Roof: Plywood. Poor.
Mechanical: None
Kitchen: n/a
Washrooms: Outhouses

Code compliance: n/a
Handicapped access: No. Poor.

Appearance: In disrepair. Poor.
Site amenities: Hall across road.

Parking: Gravel and grass.
Site secured: No.

Capital interventions anticipated:
Replace bleachers.

Additional observations:
Function can be perpetuated as long as community needs, no upgrades necessary.

Northland Trailblazers Grounds Profile

Location: 14460 279 Rd., Charlie Lake

Operator: Northland Trailblazers Snowmobile Club

Facility Description:

- Grounds include a small clubhouse and deck, outbuildings, and dock on Charlie Lake.
- The Northland Trailblazers have subleased a 4 acre piece of Montney Centennial Park. The Regional District has a License of Occupation for this property expiring in 2028.

Assessed Value: Block D assessed at $227,000

Estimated Remaining Service Life: No assessment completed.

Detailed Facility Condition Assessment Completed: No

Title/Lease Obtained:

- License of Occupation between the PRRD and Province in place until 2028.
- Use and Occupancy Agreement between the PRRD and Northland Trailblazers in effect until 2023.

PRRD Grants Received since 1996: $142,977

Regional or Community Park:

- Montney Centennial Park is included in PRRD Regional Park Bylaw No 860, 1994.

North Peace Fall Fairgrounds Profile

Location: Rose Prairie (unincorporated)

Operator: North Peace Fall Fair Society

Facility Description:

- Development started around 1951
- Buildings have been added over the years.
    - Some minor outbuildings may be original dating to the 1950's – 1970's
    - Some historic buildings were moved to the site
    - Buildings are a mix of concession booths, animal barns, historic buildings and exhibit halls
    - Outdoor Amphitheatre, rodeo arena bleachers and outdoor holding pens
- Property is 50.0 acres
- The annual North Peace Fall Fair began in 1948, and is held once a year.

Assessed Value: $601,000

- **Land** $105,000
- **Buildings** $496,000

Estimated Remaining Service Life: Most buildings will last at least 15 more years, site indefinitely (2015 Facility Assessment)

Detailed Facility Condition Assessment Completed: No

Title/Lease Obtained:

- Title application from 1988
- Use and Occupancy License Agreement with the North Peace Fall Fair Society, signed March 2020, valid until March 2025
- May be affected by the ALC

PRRD Grants Received since 1996: $228,573

Regional or Community Park: Included in the Regional Parks Bylaw and designated a Regional Park by resolution.

Asset:
North Peace Fall Fairgrounds

Location: Rose Prairie, unincorporated

Ownership: PRRD (owns land and buildings), North Peace Fair Society (operates and maintains)

Rating: 4.5 (scale of 1-10)

Remaining service life: Most buildings will last at least 15 more years. Site indefinitely.

Strategic value: Nostalgic value to community. Asset under-utilized.

Description: The annual North Peace Fall Fair began in 1948. Some minor outbuildings may be original dating to the 1950's, 60's and 70's. Some historic buildings were moved to the site. Buildings are a mix of concession booths, animal barns, historic buildings and exhibit halls. There is an outdoor amphitheatre, rodeo arena bleachers and outdoor holding pens.


Entry gate


New barn structure

Year built: 1951

Year renovated/expanded: Buildings added incrementally each decade. Newest structure (pictured above) completed in 2014.

Square footage: Site 50.0 acres, building total area unknown.

Utilization: Once a year.

Functionality: Suited for the purpose. Good.

Occupant load: n/a

Building type: Most wood-frame structures on concrete pads and crawlspace.


Outdoor stage and seating bleachers

Typical buildings

Foundation: Post on pads. Fair.

Envelope: Wood, uninsulated. Fair.

Roof: Wood, uninsulated. Poor.

Interior: Unfinished. Poor.

Mechanical: n/a

Kitchen: Mostly off-site preparation or BBQ on site.

Washrooms: Outhouses dispursed over site. Fair.

Code compliance: n/a

Handicapped access: None. Poor.

Appearance: Maintained. Good.

Site amenities: Spectator seating, spectator circulation space, displays, barns, rodeo arena.

Parking: On site, gravel and grass.

Site secured: Periimeter fencing.

Capital interventions anticipated:

Eventual systematic and incremental replacement of failed barns, booths and sheds. Electrical required, but no plumbing.

Additional observations:

The fair is a regional institution that will continue to exist as long as the volunteer leadership and volunteer labour continues. The scale of the fairgrounds is massive, with buildings numbering in the dozens.

Osborn Community Hall Profile

Location: 17528 Siphon Creek Road, Osborn

Operator: Osborn Community Hall Society

Facility Description:

- 8.67 Acres
- Occupant load of 30-40 people
- Two manufactured buildings joined together with a wood frame structure (Double Wide Trailer)
    - Installed in the 1980's
    - Added a ramp in 2010
    - Single story with estimated gross floor area of 260 square meters

Assessed Value: $281,700

- **Land** $39,700
- **Buildings** $242,000

Estimated Remaining Service Life: 10 years (2015 NP Facility Assessment and 2019 FCAPX Assessment)

Detailed Facility Condition Assessment Completed: Yes, 2019 by FCAPX

Title/Lease Obtained:

- Peace River Regional District is registered owner in Fee Simple
    - Transferred from School District #60 in 2005
- Reverter clause back to province
- In the ALR
- Use and Occupancy License Agreement with the Osborn Community Hall Society, last signed May 2018 for a 5 year term

PRRD Grants Received since 2009: $66,974

Regional or Community Park: No

Asset:
Osborn Community Hall (Rural)

Location: Osborn unincorporated;
35 kms to Cecil Lake Hall, 60 kms to FSJ

Ownership: PRRD land title and infrastructure

Rating: 2.5 (scale of 1-10)

Remaining service life: 10 years

Strategic value: Overall low; locally high

Description: Community hall located in a very isolated and remote area serving local agricultural community.


Exterior


Entrance

Year built: Installed est. 1980's

Year renovated/expanded: Ramp 2010's

Square footage: Est. 2,000 SF

Utilization: Low

Functionality: Multi-purpose, adaptable

Occupant load: 30-40

Building type: Portables (2), combustable

Foundation: Crawlspace, posts on pads.

Envelope: Wood, metal, wood windows

Roof: Metal, insulated

Interior: Lino, plywood, vinyl panel

Mechanical: Gas

Kitchen: Residential quality

Washrooms: Yes

Code compliance: Non-conforming, not sprinklered, multiple exits

Handicapped access: Limited (ramp)

Appearance: Poor

Site amenities: Playground and sport filed unusable

Parking: Gravel, abundant

Site secured: No; covers for some windows

Capital interventions anticipated: Systemic envelope and structural failure within 10 years

Additional observations:
Deferred maintenance accelerating deterioration

Rose Prairie Recreation Lot Profile

Location: Parking Lot Only, adjacent to Rose Prairie Community Hall

Operator: Rose Prairie Community Society

Facility Description:

- The PRRD has title to Lot 5, which is used by users of the Rose Prairie Community Society as a parking lot. Rose Prairie Community Hall sits on the adjacent Lots 3&4.
- Currently used as the parking lot
- 0.1011 Hectares

Assessed Value: $23,700

- **Land** $23,700
- **Buildings** $0

Estimated Remaining Service Life: Unknown

Detailed Facility Condition Assessment Completed: No

Title/Lease Obtained:

- Title for Lot 5 in 1984
    - Fee Crown Grant, Transferred from the Province
- Agreement By-law was signed for a 5 year term in 1999
- Reverter back to the Province

Regional or Community Park:

- Included in Bylaw 860, 1994.

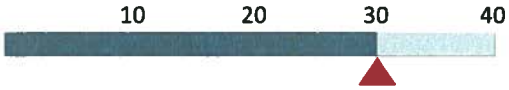
Asset:
Rose Prairie Curling Club

Location: Rose Prairie

Ownership: Rose Prairie Curling Club

Rating: 2.5 (scale of 1-10)

Remaining service life: Less than 5 years



Strategic value: Regionally none, locally as a community place.

Description: An uninsulated Quonset-style structure 2-sheet curling rink with outbuilding storage sheds. Small lounge area at entrance end.

Exterior

Year built: Estimated 1980's

Year renovated/expanded: Unknown.

Square footage: Approx. 5,500 SF.

Utilization: Capacity 16 players plus spectators. Recent use has been one draw, two evenings a week. Rated poor.

Functionality: Long narrow building not adaptable for other uses except skating. Poor.

Ice Plant

Occupant load: 30.
Building type: Quonset-style metal on perimeter beam.

Foundation: Perimeter concrete beam. Rated poor.
Envelope: Corrugated metal, partial-insulated. Poor.

Roof: Integrated roof and walls. Poor.
Interior: Low ceiling, unfinished. Poor.
Mechanical: Aging ice plant. Poor.

Kitchen, washrooms: None.

Code compliance: Non-conforming. Poor.
Handicapped access: No. Poor.

Appearance: Fatigued and under-maintained.
Parking: Gravel shared with recycling drop. Site not secured.

Capital interventions anticipated: None.

Additional observations: Building under-utilized and at end of service life. In recent years, the facility is used more as a de facto hall than a sport building. Volunteer based has dwindled to the point of being unable to operate.

Kelly Lake Community Centre Profile

Location: 107 Kelly Lake Road, Kelly Lake

Operator: Kelly Lake Community Centre Society

Facility Description:

- Retired Kelly Lake School with minor upgrades
- Building constructed in approximately 1977
    - Single story, with crawlspace
    - Estimated of 665 sq.m
    - Split into two sides, North is the gymnasium and the South is the office, program rooms and kitchen
    - Outside has a playground, and overgrown outdoor rink.
- Property is 1.98 hectares

Assessed Value: $725,400

- **Land** $36,700
- **Buildings** $688,700

Estimated Remaining Service Life: 3-5 years for repair or lifecycle replacement (2019 Assessment Report, FCAPX)

Detailed Facility Condition Assessment Completed: Yes, 2019 Facility Audit

Title/Lease Obtained:

- Property transferred to PRRD from Crown in 2010.
- Reverter back to the Province
- Use and Agreement with Kelly Lake Community Centre Society, last signed 2017

Operational funding received annually through local service area taxation.

Regional or Community Park: Not included in Bylaw 860, 1994.

Jackfish Community Hall Profile

Location: 1515 Old Jackfish Road (District Lot 4004)

Operator: Jackfish Community Association

Facility Description:

- Development began in 1987 of a 30x50 wood frame hall.
    - In 1991 a trailer pad with hydro for a caretaker was developed.
    - Improvement to the campground was completed thereafter (tree and underbrush removal, new trees planted)
- In 2004, the Jackfish Community Association was dissolved (failure to file annual reports)
- In 2005, a new Society with the same name was created
- Property is 3.976 hectares

Assessed Value: $133,100

- **Land** $41,800
- **Buildings** $91,300

Estimated Remaining Service Life: Unknown

Detailed Facility Condition Assessment Completed: No

Title/Lease Obtained:

- Title in 1991, transferred from Province.
- Reverter clause on property to the Crown

PRRD Grants Received since 1996: $134,376

Regional or Community Park:

- Listed in the By-Law No. 860, 1994.

Moberly Lake Community Hall Profile

Location: 6494 Lakeshore Drive, Moberly Lake

Operator: Moberly Lake Community Association

Facility Description:

- On the property adjacent to the Moberly Lake Fire Department
    - The property contains 5.8 acres of land
- The hall is an old Catholic Church that was moved from Hudson's Hope in 1997-1999 – after a successful bid by the Association
    - The original building is 30' x 60', with an addition of 20' x 30' for washrooms and a kitchen
    - Exterior work was completed in 2003
    - Interior work was completed in 2004

Assessed Value: $286,100

- **Land** $57,100
- **Buildings** $229,000

Estimated Remaining Service Life: Unknown

Detailed Facility Condition Assessment Completed: No

Title/Lease Obtained:

- On property with another facility – the Moberly Lake Fire Department
- Title of the property from 1992, transferred from Province
- Land Use Agreement signed in 1998
- Reverter back to the Province

PRRD Grants Received since 1996: $237,658

Regional or Community Park: In the Regional Parks Bylaw 860, 1994

PEACE RIVER REGIONAL DISTRICT

PRRD Owned Community Halls

diverse. vast. abundant.

Purpose

May 7, 2020 Resolution:

That the Regional Board be provided with a report on options for transferring ownership of society run Peace River Regional District recreational facilities to the societies that operate/lease them at a future Committee of the Whole meeting.

Outline

- Background on PRRD owned facilities
- Transfer Considerations
- Transfer Options
- Next steps

Why does the PRRD Own or Lease These Facilities?

- **Most properties were obtained in the 1980's**
  - Osborn in 2005
  - Kelly Lake in 2010

- **Properties were obtained by the PRRD at the request of the operating societies**
  - Facilities had already been constructed on Crown land and they wanted assurance that the property would not be sold or transferred.
  - Opportunities arose to obtain a building (usually a school) and the community needed land.
  - A school was deemed surplus by the School District and the Ministry was willing to transfer the school and land to the Regional District
  - The Crown was not willing to provide a Free Crown Grant or license of occupation to a non-profit society but rather only to a local government

PRRD Owned & Leased Facilities

Owned:

1. Cache Creek Hall & Recreation Grounds (Area B)
2. Golata Creek Hall & Recreation Grounds (Area B)
3. Halfway Graham Hall (Area B)
4. North Peace Fall Fair Grounds (Area B)
5. Osborn Community Hall (Area B)
6. Rose Prairie Curling Rink Parking Lot (Area B)
7. Kelly Lake Community Hall (Area D)
8. Jackfish Community Hall (Area E)
9. Moberly Lake Community Hall (Area E)

PEACE RIVER REGIONAL DISTRICT | PRRD Owned Community Halls

PRRD Owned & Leased Facilities

Provincial License of Occupation:

1. Buick Creek Recreation Grounds (Area B)
2. Goodlow Recreation Grounds (Area B)
3. Halfway Graham Rodeo Grounds (Area B)
4. Northland Trailblazers Chalet (Area B)

PEACE RIVER REGIONAL DISTRICT | PRRD Owned Community Halls

How are facilities funded?

A. Local service areas

B. Grants

C. Fundraising

Buick Creek Recreation Grounds (Area B)

- **Ownership Status:** License of Occupation
- **Property History:** Developed in the 1980s
  - **Property Description:** Grandstands, a catch-pen, a holding pen, announcer's booth, riding arena, calf chutes and a service building.
- **Facility Assessment:** 5 years of useful life remaining
- **Other Considerations:**
  - License of Occupation document restricts use to "rodeo and community grounds purposes"
  - Included Regional Parks Regulatory Bylaw (860, 1994)
  - May be affected by the ALR.

Cache Creek Hall & Recreation Grounds (Area B)

- **Ownership Status:** Title obtained in 1987

- **Property History:** Facility constructed in the late 1980s, with outbuildings and structures added in the 1990s and 2000s.

- **Property Description:** includes double wide portable classroom type structure, outbuildings, playgrounds, and outdoor rink.

- **Facility Assessment:** estimated 10-15 years of useful life remaining

- **Other Considerations:**
  - Title document restricts use to "community recreation purposes"
  - In Regional Parks Regulatory Bylaw (860, 1994)
  - May be affected by the ALR.
  - Possibility of Reverter to the Crown.

Golata Creek Community Hall (Area B)

- **Ownership Status:** Title obtained in 1986

  - **Property History:** Original Hall built in 1959, addition added in 1978, kitchen added in 1987, plumbing added in 2009.

- **Property Description:** Grounds include a horseshoe pit, ball diamond, and campground with outhouses.

- **Facility Assessment:** 2015 NP Facility Assessment estimated 5 years of useful life remaining.

- **Other Considerations:**
  - Title document restricts use to "community recreation purposes"
  - In Regional Parks Regulatory Bylaw (860, 1994)
  - May be affected by the ALR.
  - Possibility of Reverter to the Crown.

Goodlow Recreation Area (Moose Creek) (Area B)

- **Ownership Status:** License of Occupation since 1983

- **Property History:** Development of the gymkhana grounds started in 1986. In 2011, property operators began development as a campground.

- **Property Description:** In 2015, property included two small buildings, playground equipment, picnic tables, and fire pits.

- **Facility Assessment:** indefinitely with upkeep.

- **Other Considerations:**
  - License restricts use to "community recreation purposes"
  - In Regional Parks Regulatory Bylaw (860, 1994) (under Moose Creek)

PEACE RIVER REGIONAL DISTRICT | PRRD Owned Community Halls

Halfway Community Hall (Area B)

- **Ownership Status:** Title obtained in 1983

- **Property History:** Original Hall built in 1983. Hall was re-roofed in 2003.

- **Property Description:** 2,500sf hall also used by the local school for a gym.

- **Facility Assessment:** estimated 15-20 years of useful life remaining.

- **Other Considerations:**
  - Title document restricts use to "recreational purposes"
  - In Regional Parks Regulatory Bylaw (860, 1994) (as Upper Halfway)
  - May be affected by the ALR.
  - Possibility of Reverter to the Crown.

PEACE RIVER REGIONAL DISTRICT | PRRD Owned Community Halls

Halfway Gymkhana Grounds (Area B)

- **Ownership Status:** License of Occupation since 1988

- **Property History:** Development of the gymkhana grounds started in 1980s, land improvements were completed in 1986.

- **Property Description:** Property includes fenced arena, bleachers, announcer's booth, and open space.

- **Facility Assessment:** indefinitely with upkeep.

- **Other Considerations:**
  - License restricts use to "local/regional park purposes"
  - May be affected by the ALR.

Northland Trailblazers (NLTB) Property (Area B)

- **Ownership Status:** License of Occupation signed in 1988 for the Montney Park property.

- **Property History:** sublease a portion of the park since 1992

- **Property Description:** Grounds include a small clubhouse and deck, outbuildings, and a dock.

- **Facility Assessment:** No facility assessment completed.

- **Other Considerations:**
  - Title document restricts use to "community park purposes"
  - Montney Centennial Park is included in Regional Parks Regulatory Bylaw (860, 1994)
  - May be affected by the ALR.

North Peace Fall Fairgrounds (Area B)

- **Ownership Status:** Property purchased in 1979; In 1984, an additional 40 acres were added.
- **Property History:** Established as a fall fair in the 1940s, buildings have been added over time since the 1950s.
- **Property Description:** Local historic buildings have been moved to this property, mix of concession booths, animal barns/pens, exhibit barns, outdoor Amphitheatre, and bleachers.
- **Facility Assessment:** varied based on building (most 15 years)
- **Other Considerations:**
  - Legal review confirmed that property is designated regional park by the Board
  - May be affected by the ALR.

Osborn Community Hall (Area B)

- **Ownership Status:** Title transferred in 2005 from School District #60.
- **Property History:** School was built in the 1980s, ramp added in 2010.
- **Property Description:** Two manufactured buildings joined together with a wood framed structure.
- **Facility Assessment:** Detailed Facility Condition Assessment completed in 2019.
- **Other Considerations:**
  - Title document restricts use for "school site and/or public community"
  - May be affected by the ALR.
  - Possibility of Reverter to the Crown.

Rose Prairie Community Hall Parking Lot (Area B)

- **Ownership Status:** Title for the parking lot obtained in 1984
  - **Property History:** Obtained as a parking lot for the Rose Prairie Community Centre
- **Property Description:** Parking lot.
- **Facility Assessment:** No
- **Other Considerations:**
  - Title document restricts use for "community hall and/or curling rink purposes"
  - Possibility of Reverter to the Crown.
  - Included in Bylaw 860, 1994 (Rose Prairie Curling Rink Grounds)

Kelly Lake Community Centre (Area D)

- **Ownership Status:** Title transferred in 2010 from School District #59.
- **Property History:** School was constructed in ‴1977.
  - **Property Description:** Facility is ‴665 sqm; comprised of a gym, offices, program rooms & kitchen. Grounds consist of a playground & skating rink.
  - **Facility Assessment:** Detailed facility condition assessment completed in 2019; suggested that major capital investment would be needed in 3-5 years.
- **Other Considerations:**
  - Title document restricts use for "community recreation purposes"
  - Possibility of Reverter to the Crown.

Jackfish Community Centre (Area E)

- **Ownership Status:** Title obtained in 1991
  - **Property History:** Development of hall began in 1987, added a caretaker campsite for security in 1991, and minor outdoor improvements since.
  - **Property Description:** Facility is approximately 30x50 feet.
- **Facility Assessment:** None
- **Other Considerations:**
  - Title document restricts use for "community recreation purposes"
  - Possibility of Reverter to the Crown.
  - Listed in Bylaw 860, 1994 as a Regional Park.

Moberly Lake Community Hall (Area E)

- **Ownership Status:** Title obtained in 1992
  - **Property History:** Hall moved to its current location in 1991.
  - **Property Description:** The original building is 30x60 with a 30x20 addition for washrooms and a kitchen. Exterior work completed in 2003/04.
- **Facility Assessment:** None
- **Other Considerations:**
  - Shares property with the Moberly Lake Fire Hall.
    - Title document restricts use for "community recreation purposes"
  - Possibility of Reverter to the Crown.
  - Listed in Bylaw 860, 1994 as a Regional Park.

Transfer Considerations

1. Regional Parks Designation
2. Specified Use
3. "Reverter" Clauses
4. Agricultural Land Reserve Restrictions

Transfer Considerations

5. Co-Located Facilities
1. Notice of Assistance/Disposition
2. Liability
3. Insurance

Transfer Considerations

9. Taxation

1. Future Use and Ongoing Interest

2. Borrowing

3. Local Service Areas

Transfer Considerations

13. Asset Management

1. External Grants

2. Volunteerism

Transfer Options

A. Continue to operate as status quo.

B. Sell properties for a less than market value.

A. Sell properties for appraised value.

A. Enter into long-term lease (for properties owned by the PRRD)

A. Transfer licenses of occupation to societies that operate the facilities

Board Next Steps

Board decides whether to further investigate the transfer of the PRRD owned/leased properties

YES → Board prioritizes which properties should further be investigated for transfer

NO → Staff will continue to work with society operators on updating agreements

Next Steps if the Board Wishes to Investigate Transferring Properties

Legal & Internal Review

1. Legal review of:

- property titles and licenses of occupation (as applicable to the property) and any charges and liens
- transfer documents
- contracts and agreements
- bylaws and Board resolutions to determine if properties have legal park status
- whether an environmental investigation is required

Next Steps if the Board Wishes to Investigate Transferring Properties

Legal & Internal Review

2. Internal Review:

- Consideration of ongoing operating, maintenance, repair, and replacement costs with respect to the property and potential need for PRRD role/contribution.
- Ongoing interest and future use based on identified projects and existing plans
- Consultation with society operators
- Possible condition assessment

PEACE RIVER REGIONAL DISTRICT | PRRD Owned Community Halls

Board Next Steps

- Reports will be brought back to the Board that:
  - describes the results of the legal and internal reviews
  - outlines any further legal requirements and actions needed by the Board
- The Regional Board can then decided whether to move forward with disposition of identified properties or not

PEACE RIVER REGIONAL DISTRICT

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PEACE RIVER REGIONAL DISTRICT

REPORT

To: Electoral Area Directors Committee Report Number: ADM-EADC-018

From: Crystal Brown, Electoral Area Director Date: August 11, 2020

Subject: Electoral Area Directors Project Planning for 2021 - 2022

RECOMMENDATION:

That the Electoral Area Directors Committee receive the report titled "Electoral Area Directors Project Planning for 2021 - 2022 – ADM-EADC-018", which identifies potential projects for the Electoral Area Directors to focus on in 2021-2022, for discussion and prioritization.

BACKGROUND/RATIONALE:

Staff have compiled a list of projects for the Electoral Area Directors Committee. Once each Electoral Area Director identifies their project priorities for 2021-2022, staff will develop a detailed work plan for each item, with projected timelines and budget considerations.

ALTERNATIVE OPTIONS:

1. That the Electoral Area Directors Committee provide further direction.

STRATEGIC PLAN RELEVANCE:

☒ Not Applicable to Strategic Plan.

FINANCIAL CONSIDERATION(S):

None at this time.

COMMUNICATIONS CONSIDERATION(S):

None at this time.

OTHER CONSIDERATION(S):

None at this time.

Attachments:

1. Potential 2021-2022 Project List – TO BE HANDED OUT DURING MEETING

PEACE RIVER REGIONAL DISTRICT

REPORT

To: Electoral Area Directors Committee Report Number: ADM-EADC-016

From: Kori Elden, Executive Assistant/HR Generalist Date: August 11, 2020

Subject: Notice of Closed EADC Session – August 20, 2020

RECOMMENDATION:

That the Electoral Area Directors Committee recess to a Closed Meeting for the purpose of discussing the following items:

Agenda Item 3.1 – Closed Meeting Minutes (CC Section 97(1)(b))
Agenda Item 5.1 – Negotiations Related to a Proposed Service (CC Section 90 (1)(k))

BACKGROUND/RATIONALE:

As per the Closed Meeting Process and Proactive Disclosure Policy.

ALTERNATIVE OPTIONS:

1. The Board may recess to a Closed Meeting to discuss whether or not the items proposed properly belong in a Closed Session. *Community Charter* Section 90(1)(n).

STRATEGIC PLAN RELEVANCE:

☒ Not Applicable to Strategic Plan.

FINANCIAL CONSIDERATION(S):

Not applicable.

COMMUNICATIONS CONSIDERATION(S):

Not applicable.

OTHER CONSIDERATION(S):

Not applicable.

ELECTORAL AREA DIRECTORS COMMITTEE

DIARY ITEMS

	Topic	Notes	Added/Updated
1.	Cell Towers within the Region	Investigate partnership opportunities	May 27, 2019
2.	Electoral Area D Referendum	Water (service areas) in 2020	October 16, 2018
3.	Don Nearhood Museum	As the Peace Canyon building is closed, a new location for the display is needed	November 13, 2018
4.	Oil and Gas Working Groups A. Template B. Synergy Groups	Provide updates from each meeting	January 18, 2019 October 17, 2019 April 16, 2020
5.	Natural Gas	Expansion of services to rural areas	May 27, 2019
6.	Section 381(Cost sharing for services under Part 14 [*Planning and Land Use Management*] of the *Local Government Act.*		August 15, 2019
7.	Volunteer Recognition		November 21, 2019