# Regional Agriculture Master Plan (RAMP) Task Force

## Agenda

February 27, 2020, 10:00 a.m. – 3:00 p.m.
Clymont Community Hall in Parkland County
#1, 51423 Highway 60, Spruce Grove, AB

<table>
<thead>
<tr>
<th>1. Opening</th>
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<tr>
<td><strong>1.1 Quorum</strong></td>
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<td>Action: Confirmation</td>
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<td>Lead: Chair Shaigec</td>
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<td><strong>1.2 Call to Order</strong></td>
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<td>Lead: Chair Shaigec</td>
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<td><strong>1.3 Chair Opening Remarks</strong></td>
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<thead>
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<th>2. Approval of Agenda</th>
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<td>Lead: Chair Shaigec</td>
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**Recommended Motion:** That the Regional Agriculture Master Plan Task Force approve the February 27, 2020 meeting agenda.

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<thead>
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<th>3. Approval of Minutes</th>
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<td>Lead: Chair Shaigec</td>
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**Recommended Motion:** That the Regional Agriculture Master Plan Task Force approve the October 28, 2019 meeting minutes.

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<tr>
<th>4. Task Force Outcomes from October 28, 2019 – where we are and where we are headed</th>
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<td>Action: Information</td>
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<td>Lead: Chair Shaigec / Mr. Jerry Bouma (Consultant)</td>
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### 5. Economic Imperative for Agriculture

*Action: Decision*
*Lead: Chair Shaigec / Mr. Bouma*

**Recommended Motion:** That the Regional Agriculture Master Plan Task Force reaffirm the direction of the Economic Imperative for Agriculture.

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### 6. Roles and Responsibilities of RAMP Stakeholders

*Action: Decision*
*Lead: Chair Shaigec / Ms. Shuya*

**Recommended Motion:** That the Regional Agriculture Master Plan Task Force endorse the Roles and Responsibilities of RAMP Stakeholders to inform further work on RAMP.

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### 7. RAMP Engagement Plan Update

*Action: Information / Discussion*
*Lead: Chair Shaigec / Mr. Lee Funke (Consultant) / Ms. Cathy Kiss (Consultant)*

**Recommended Motion:** That the Regional Agriculture Master Plan Task Force receive the RAMP Engagement Plan Update for information.

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### 8. RAMP Policy Update – Introduction, Context, Overarching Policies, Policy Matrix Overview, and Policy Area Maps

*Action: Decision*
*Lead: Chair Shaigec / Mr. Andy Haden (Consultant) / Mr. Bouma*

**Recommended Motion:** That the Regional Agriculture Master Plan Task Force endorse the RAMP Policy Update to inform further work on RAMP.

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### 9. Next Steps and Meeting Summary

*Action: Decision*
*Lead: Chair Shaigec / Mr. Bouma*

**Recommended Motion:** That the Regional Agriculture Master Plan Task Force endorse the Meeting Summary and Next Steps.
## 10. In Camera – RAMP Policy Refinement – Section 24 – Advice from Officials – advice, proposals, recommendations, analyses or policy options developed by or for a public body.

*Action: Approval*
*Lead: Chair Shaigec / Mr. Bouma*

**Recommended Motion:** That the Edmonton Metropolitan Region Board move In Camera, in accordance with the provisions of Section 24, of the Freedom of Information and Protection of Privacy Act (FOIP), R.S.A. 2000, c.F-25.

**Recommended Motion:** That the Edmonton Metropolitan Region Board move out of camera.

## 11. Adjournment

*Action: Declaration*
*Lead: Chair Shaigec*
Regional Agriculture Master Plan Task Force

Monday, October 28, 2019
9:00 a.m. – 3:00 p.m.
Leduc County – Calmar Legion Hall
4815 47 St, Calmar, AB

Members:
Rod Shaigec, Parkland County (Chair)
Michael Walters, City of Edmonton (Vice Chair)
Kathy Barnhart, City of Beaumont
Tanni Doblanko, Leduc County
Alanna Hnatiw, Sturgeon County
Paul Smith, Strathcona County
Barry Turner, Town of Morinville
Karen Sundquist, Government of Alberta
Malcolm Bruce, Edmonton Global

Technical Members:
Hani Quan, City of Edmonton
Garett Broadbent, Leduc County
John Knapp, Parkland County
Joel Gould, Strathcona County
Angela Veenstra, Sturgeon County

EMRB Staff:
Karen Wichuk, CEO
Sharon Shuya, Director, Regional Growth Planning
Bryan Haggarty, Director of Strategic Initiatives and Operations
Debra Irving, Senior Project Manager
Taylor Varro, Project Manager
Ron Cook, Manager of GIS and Business Intelligence
Dan Rose, Senior Communications Advisor
Carol Moreno, Project Coordinator

Consultants
Jerry Bouma, Toma & Bouma
Bob Burden, Serecon

Guests:
Sue Armstrong, City of Spruce Grove
Grant Bain, Leduc County
Jennifer Batchoun, Leduc County
Teaka Broughm, City of Beaumont
Jordan Brown, City of Leduc
Neal Comeau, Sturgeon County
Charleen Currie, City of Edmonton
Gibby Davis, City of Edmonton
Jordan Evans, Leduc County
Lyndsay Francis, City of St. Albert
Andy Haden, Observer
David Hales, City of Edmonton
Ryan Hall, Strathcona County
Greg Hofmann, City of Edmonton
Laurie Johnson, Leduc County
Michelle Kane, City of Leduc
Brandy Kelly, City of Leduc
Michael Klassen, Sturgeon County
Larissa Lindmark, Parkland County
Avril McCalla, City of Edmonton
Shree Shinde, City of Fort Saskatchewan
John Stewart, City of Beaumont
Larry Wanchuk, Leduc County
Bob Young, City of Leduc
1. Opening

1.1 Quorum

Quorum achieved; 7 of 7 voting members present.

1.2 Call to Order

Chair Shaigec called the meeting to order at 9:02 a.m.

1.3 Chair Opening Remarks

Chair Shaigec welcomed the members of the Task Force including Mr. Malcolm Bruce, CEO of Edmonton Global, as the newest member. Although the Task Force has not met since August, the progress of RAMP has continued by the Working Group, as evidenced by the thorough agenda package. He thanked the County of Leduc for hosting this meeting.

2. Approval of Agenda

Motion: That the Regional Agriculture Master Plan Task Force approve the October 28, 2019 meeting agenda.
Moved by: Mayor Turner
Accepted by: Chair
Decision: Carried unanimously

3. Approval of Minutes

Motion: That the Regional Agriculture Master Plan Task Force approve the August 16, 2019 meeting minutes.
Moved by: Mayor Doblanko
Accepted by: Chair
Decision: Carried unanimously

4. Task Force Outcomes from August 16, 2019

Mr. Burden reviewed the results of the last Task Force meeting including the unanimous support of the draft policy areas and progress on the Engagement Plan.

5. Outcomes for October 28, 2019

Mr. Burden communicated the goals of this meeting include a review of the Economic Imperative for Agriculture, endorsement of the draft policy area objectives and mapping, and endorsement of the Engagement Plan implementation update and direction.
6. Agriculture and The Economic Imperative

Mr. Bouma presented the Task Force with examples of successful integration of agri-food systems and economic development highlighting the Netherlands, Portland, Austin, Minneapolis, and Lisbon. Many of these locations share some similar characteristics with the Edmonton Metropolitan Region but each were able to capitalize on their unique features and competitive advantages. Their successes were not by default, but by design due to the intentional effort and ensure the appropriate conditions were in place for success.

Mr. Bruce commented that Edmonton Global recently conducted a successful trip to the Netherlands and have strengthened partnerships there. He encouraged the Task Force to refer to edmontonglobal.ca/downloads for a two-page summary of the Food and Agriculture priorities for the Region. Ms. Sundquist renewed her offer to coordinate a presentation by members of the Business Development and Program Delivery Branch. Mr. Bruce shared some of the opportunities and strategies employed by Edmonton Global to encourage investment and enhancement of the Region’s agri-food system.

Task Force members discussed the pivotal role of the Government of Alberta in ensuring these intentional policy directions are implemented and supported. CEO Wichuk reiterated the need to fully develop and communicate the exponential return on investment in this industry to all key stakeholders. Mr. Bruce echoed the need for and continued effort towards alignment of municipal, provincial and federal levels of government.

Mr. Bouma shared some impactful statistics and trends, extracted from the August 2018 Situation Analysis, to support the need for a deliberate strategy to elevate the importance of the food and agriculture sector.

Break 10:24 a.m. – 10:42 a.m.

Mr. Burden invited the Task Force to participate in a Regional Alignment breakout exercise. Members were asked to indicate the level of support and perceived value of RAMP from three perspectives: themselves as Task Force members, their perception of their Council’s position, and their perception of other stakeholders’ position.

Mr. Burden reviewed the results of Breakout Session #1 with the Task Force to discuss potential reasons for positioning and opportunities to move towards the high value/strong support quadrant. Task Force members noted that consistent communication a strong business case to key stakeholders would encourage greater support and recognition of RAMP’s value.

7. Agriculture Policy Area Framework

Mr. Burden outlined the working assumptions for RAMP policy development: using a 2044 planning horizon, building on existing policies from the Growth Plan, and updating the RAMP as part of the 2027 Growth Plan review.
Mr. Davis then led the Task Force through the process of developing the draft Agriculture Policy Area map, as presented. He explained the intent was to approach the drafting of an initial policy area map using an evidence-based approach to achieve as much certainty for agriculture and, at the same time, ensure room for growth to 2044.

Mr. Davis presented the map in layers of policy area starting with Policy Area 4 – Urban Agriculture, followed by Policy Area 3 – Transition Lands within the Metropolitan Area. Policy Area 2 was introduced as lands within the Rural Area policy tier where Agriculture was secondary to other land uses, followed by Policy Area 1, as the remaining lands within the Rural Area of the Growth Plan, where Agriculture would be a priority. Both Policy Area 1 and 2 recognize specific land uses such as Confined Feeding Operations, Country Residential, Rural Employment Areas, and Environmentally Sensitive areas, which would be subject to specific policy directions, as an example.

Mr. Bouma then reviewed the policy objectives and refined policy directions for each of the four Policy Areas in detail. The Task Force enquired about engagement with non-EMRB municipalities, plans for future reclaimed mining lands, and the use of the term “transition” for lands within Area 3.

Lunch 12:00 p.m. – 12:43 p.m.

Mr. Burden invited the Task Force to participate in Breakout Session #2 and visit each of the policy area stations to provide their input and ask questions. Members of the Working Group captured their feedback providing background and context in support of the draft refined policy area refined policy directions. A representative from each station then provided the Task Force with a high-level summary of the feedback, which will be addressed by the Working Group.

Comments related to the use of the term “required” for some policy directions in Area 4, a potential economic assessment of a quarter section of agricultural land versus urban development land, staging and prioritization of using lower capability land balanced with contiguous growth, depictions of built-up employment areas perceived as residential on the draft map, growth potential for hamlets, possible mechanisms for redrawing policy area lines, and the impact of climate change on water and ground water.

RAMP19-24 Motion: That the Regional Agriculture Master Plan Task Force endorse the draft Policy Area Mapping, and refined Policy Area Directions to inform further work on Policy Development.
Moved by: Mayor Hnatiw
Accepted by: Chair
Decision: Carried unanimously
8. RAMP Engagement Plan – Implementation Update

Ms. Shuya outlined the current plans for Stakeholder Engagement – Phase 1, including presentations to all thirteen councils and five regional stakeholder roundtable sessions. The presentations will include progress on RAMP up to and including October 28, 2019.

Members of the Task Force shared concerns that brief presentations to councils would not provide sufficient opportunity to learn the material and encourage meaningful feedback. It was also suggested that bringing all regional stakeholders to the same forum may not be ideal and could result in unintended consequences. Consideration for a narrated video presentation was proposed as an effort to save time and ensure consistent messaging across stakeholder groups.

The Task Force members affirmed their intention to be involved in engagement opportunities hosted by their municipality and to receive open invitations to attend other sessions in the Region. The Project Team was encouraged to contact the Government of Alberta’s resource prior to embarking on Indigenous engagement.

**Motion:** That the Regional Agriculture Master Plan Task Force accept the RAMP Engagement Plan update for information.

- **Moved by:** Mayor Doblanko
- **Accepted by:** Chair
- **Decision:** Carried unanimously

9. Meeting Summary and Next Steps

Mr. Burden summarized the record of key decisions:

1. Different stakeholders were identified as holding different positions within the Alignment Exercise matrix
2. Engagement and communication are critical to ensure others understand its value and move towards support
3. Endorsement of refined policy directions and mapping
4. Messaging should be as precise and efficient as possible
5. Difference between communication and engagement

Mr. Burden suggested that the December 5 Task Force meeting will be rescheduled as the updated work on policy development would not be completed in time. The Project Team will evaluate the options and propose a new date for early 2020.

**Motion:** That the Regional Agriculture Master Plan Task Force endorse the Meeting Summary and Next Steps.

- **Moved by:** Councillor Barnhart
- **Accepted by:** Chair
- **Decision:** Carried unanimously
Chair Shaigec thanked Leduc County and the catering staff for hosting as well as the Working Group for their contributions to the success of this meeting.

12. Adjournment

Chair Shaigec declared the Task Force meeting adjourned at 2:15 p.m.

Task Force Chair, Rod Shaigec
Economic Imperative for Agriculture

Recommended Motion: That the Regional Agriculture Master Plan Task Force reaffirm the direction of the Economic Imperative for Agriculture.

Background

- The Task Force has identified that the success of the Regional Agriculture Master Plan (RAMP) relies on a focused commitment by the Region to a long-term vision and an appreciation for the economic imperative for supporting and maintaining the primary and value-added agriculture sectors.
- RAMP provides primary decision makers across the Region with a plan focused on creating the conditions for seizing the larger economic opportunity and potential for the sector for the next 25-50 years.
- Agriculture is our Region’s second largest contributor to GDP and capitalizing on the continued growth and potential of the sector requires the buy-in and support from a broad set of stakeholders.
- RAMP identifies specific areas where agriculture lands should remain a priority and aligns policies throughout the Region to encourage all types of agriculture to continue for as long as possible.
- While there is an economic imperative for implementing RAMP, the Task Force is also sensitive to the timing and need to socialize the direction for RAMP. The Task Force is monitoring and considering the global market forces and policies affecting the sector, the current federal and provincial priorities- opportunities for job creation, enabling investment in economic development and area for improved efficiencies and collaborating with regional stakeholders.
- The Board received the attached Economic Imperative for Agriculture presentation on December 12, 2019 for information.
- The feedback from the Board was supportive of the potential for RAMP to provide policy leadership and in creating the conditions for future economic growth measured by an increase in jobs, GDP, and economic diversification.

Next Steps

- Policy development and refinement will continue based on the presentations, discussions, feedback and outcomes of the today’s RAMP Policy Workshop.
- The Economic Imperative will be a vital component of engagement with key regional stakeholders to enable a successful RAMP.
Attaches

1. Economic Imperative for Agriculture Presentation
2. Optional Reading: RBC Thought Leadership – Farmer 4.0
The purpose of this presentation is to take a step back and address a central question: What can RAMP accomplish? Of course, the corollary to this question is this: What might the EMR look like, should RAMP not move forward – in effect a future without RAMP? In other words: Why RAMP?
Let’s start by taking a look at the big picture. Here are some projections by the Global Harvest Institute (Virginia Tech). Simply, the demand for food will only continue to grow.
Two key points can be made:
• Global demand will grow based on sheer numbers; and
• The demand will grow in specific ways as incomes increase – new products; more value-added products, a focus on food for health, etc.
All the while, the available agricultural land base continues to decline.
In effect: a doubling of output will be required.
The Global Economic Imperative for Agriculture

For Total Factor Productivity (TFP) to increase, outputs must rise while inputs (including land) must remain constant.

Indeed, growth pressures to actually reduce inputs such as Nitrogen, Phosphorus and Potassium, including pesticides, the number of passes made over fields, the move to minimum/zero till… all will be central to how food is produced.

One imperative prevails:
The agricultural land base as we know it is maxed out and will continue to decline for several reasons, including:

• Continued urbanization
• Climate change – leading to densification, erosion, flooding
• Changes in water supplies
The EMR Economic Imperative for Agriculture

“Canada has been identified as one of only six countries who will be net food exporters by 2025 – Alberta and the EMR are well positioned to respond to this growing demand.” RAMP Situation Analysis

The EMR can help fulfill the global gap predicted by producing high-quality food while increasing productivity, jobs, and GDP in the agricultural sector enabling regional prosperity.

We can only stress the importance of these facts and our inherent competitive position and advantages – both globally and within Canada.
What does the future of the EMR agricultural land base look like?

• With RAMP – 1.579 million acres in 2046. This allows for the absorption of 100,000 acres.
• Without RAMP – 1.5 million acres in 2031; then an inflection point – drop off to 900,000 acres by 2046; or a rate of 40,000 acres per year.

Why? Largely due to sub-optimal farming practices and in some cases abandonment – parcels located in areas that are difficult to access/or even to farm due to size and configuration.

Change in Agriculture Land Base

Base Case – loss of 100,000 acres between 2016 and 2046; this is the current trend line

No RAMP – loss of 600,000 acres between 2016 and 2046 based on Statistics Canada data on an analogous case in Greater Toronto Area. Assumes comparable agricultural land losses that took place in 4 neighbouring counties in the Greater Toronto Area between 1971 and 2006.
The EMR Economic Imperative for Agriculture

The Projections: Economic Output
Three very simple scenarios:
- Steady Path – 100,000 acres of land has been absorbed; everything proceeds as per current trends.
- No RAMP – lose another 600,000 acres; no other changes
- Accelerated Value Added – predicated on a change in value added creation; moving from a 1:1 ratio (this historical ratio) to 2:1 ratio.

Should we succeed, the results are significant.

Note: the marked differences; and the relative indifference between steady state and no RAMP.

Direct Economic Output – Total Direct Economic Output - in all cases we are adding two key measures:
- Gross Farm Sales
- Value ($) Food and Beverage Shipments.
Note: we assume that 25% of the total Alberta Value of Food & Beverage Shipments comes from the EMR – for Alberta in 2016 – this was $13,282,100,000. Thus 25% = $3,320,290,000

Source of 25% assumption: Statistics Canada, Labour force survey, custom tabulation G0108_12_Tab1.ivt

The Numbers – Start with 2016 – these are actual Statistics Canada date (Census of Agriculture – 2016). The Numbers

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<thead>
<tr>
<th>Gross Farm Sales</th>
<th>Value ($) Food and Beverage Shipments</th>
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<td>$838,221</td>
<td>$3,320,525</td>
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Total = $4.16 Billion Rounded

Extrapolations for 2021 to 2014 – for Steady Path and No RAMP – this is a simple extrapolation based on the trend from 2001 to 2016 adjusted for the change in land area.

Accelerated Value Added – simply takes the Food and Beverage Shipments and increases the rate of growth by doubling the rate we assumed for Steady Path. Note: the current ratio between food & beverage to farm sales in the province is 1:1. We increased to 2:1 by 2046 in an incremental manner as follows - 1:15 to 1 in 2021; 1:30 to 1 in 2026; 1:45 to 1 in 2031 etc.
The Projections: Jobs
Same assumptions as per the previous slide.
Now you see the drop in jobs. Why? Mostly loss of farm production jobs that pull down the overall picture in the no RAMP scenario.
Total Direct Jobs – again we take actual statistics as per the Census of Agriculture 2016. Total Farm operators/jobs= 4,655. Assume that 25% of the total provincial food & beverage jobs (25% of 24,000) = 6,000 jobs. Therefore in 2016 = 10,655 jobs.
Similar to the previous graph:
Extrapolations for 2021 to 2014 – for Steady Path and No RAMP – this is a simple extrapolation based on the trend from 2001 to 2016 adjusted for the change in land area.
Accelerated Value Added – simply takes the Food and Beverage Shipments and increases the rate of growth by doubling the rate we assumed for Steady Path. Note: the current ratio between food & beverage to farm sales in the province is 1:1. We increased to 2:1 by 2046 in an incremental manner as follows - 1:15 to 1 in 2021; 1:30 to 1 in 2026; 1:45 to 1 in 2031 etc.
The EMR Economic Imperative for Agriculture

1. A modest increase in value added creation (2:1) can equate to a substantive increases in jobs and economic output.
2. Opportunity costs of inaction quickly rise to billions of dollars every year and thousands of new jobs.
3. Integrated Economic Development strategies are required.
4. Agricultural land is a vital component both regionally and provincially.

The major positive outcomes – both in terms of economic outputs and job creation is largely a function of increasing the value added. And maintaining the agricultural land base.
The EMR Economic Imperative for Agriculture

Net-production per acre of land retained in production

- 25,355 Bottles Beer
- 504L Canola Oil
- 348lbs Beef
- 9,920 Loaves Bread

Stats supplied by Leduc County

Sometimes it is better to express opportunities in terms of units or consumables that we can understand. And this is just the beginning. A recent study showed that: Or 1 acre can produce sufficient fresh vegetables for 270 people.
What can RAMP Accomplish?

- Position ‘Agriculture’ as a major economic driver for the EMR and the Province
- Create the conditions to:
  - Increase economic outputs and employment
  - Attract new innovations, investments and partnerships on the national & international stage
• EMR is home to some of the best agricultural production regions (soils) in Western Canada
• Hosts an array of assets including research, development & commercialization institutions, logistics and infrastructure:
  ➢ U of A - ALES; Agri-food Discovery Place
  ➢ Alberta Ag & Forestry - Food Product Development Centre
  ➢ Alberta Innovates; NAIT; TEC Edmonton
  ➢ EIA; centrum for major highways and railways
• The base of an emerging class of entrepreneurs, ag-technology and new food businesses
• Technology – AI; nanotechnology; genomics, here are some examples.
Driven by an EMR Leadership Group committed to a long-term strategy
Values and protects the agriculture land base and the supporting agricultural system
Support the development of an integrated economic development plan that:
- Increases the value being added to commodities
- Develops expertise in small plot agriculture that is high value but early stage
- Facilitates ag & food business growth - nationally & internationally
- Attracts strategic partners & investors

4. Support from all levels of government – in effect the EMR has the opportunity to lead not only as a Region but demonstrate to the Province that this can be done.
The Imperative for Agriculture

Increased economic output

The Region could achieve $25 Billion annually in Total Direct Economic Output if we got to 3:1 ratio

- Increased economic output - billions more per year as possible
- Simply without RAMP, the outcomes are predictable – modest to say the least; modest economic growth, modest employment levels; modest impact.
- With RAMP and a successful value-added economic strategy – big outcomes can be achieved.
Increased employment - thousands more employed

Same message:
- Simply without RAMP, the outcomes are predictable – modest growth.
- With RAMP and a successful value-added economic strategy – big outcomes can be achieved.
Bottom Line:
Austin and Edmonton have many similar characteristics: size; location in the midst of the prairie; oil, gas and beef industries on the doorstep; a major university; a young demographic, etc. Interestingly, Austin has approximately 66% more employment in the Food & Accommodation sector compared to Edmonton.

Success Factors for Austin:
- A fusion of cultures - beginning with Mexican-American
- Builds on a strong food culture - agriculture, beef, BBQs, Food Trucks, Innovation…
- Demand driven by young demographic - University town; fast growing tech centre (Dell, Amazon, Apple…'Silicon Hills')
- Supported by Strategies for Local Food - “Fresh for Less”; Growing, Selling, Eating, Recovering; growth in ‘Farm to Fork’ restaurants; Capital Kitchens South as an incubator

Austin and Edmonton Statistics – populations and acre stats are taken from Statistics Canada and Statistics for the Austin Region. Employment stats are taken from: City of Edmonton Labour Force/Employment Stats; Austin Stats taken from US. BLS Current Employment Statistics.
The Economic Opportunity

<table>
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<tr>
<th>Indicators</th>
<th>EMR*</th>
<th>Netherlands</th>
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<tr>
<td>Acres Farmed</td>
<td>1,678,983</td>
<td>4,423,337**</td>
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<tr>
<td>Total Output</td>
<td>$4.2 Billion</td>
<td>$150 Billion***</td>
</tr>
<tr>
<td>Jobs</td>
<td>10,666</td>
<td>626,000**</td>
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*Source: Statistics Canada
**Source: KPMG Going Dutch: Opportunities for the Australian Agri-food Sector, 2019

Success Factors for Netherlands
- Commitment to agriculture as a strategic industry - major contributor to GDP
- Commitment to agriculture land - very limited sprawl or rural fragmentation
- High level of coordination - industry, research and government
- Market driven industry structures - Product Boards combining producers, industry and government
- History of trade, commerce, international finance
The current state of fragmentation in the EMR as of 2016

Source: Alberta Ministry of Agriculture & Forestry, 2018

Notes:
- Large parcels (80-240) declined by 307 in the 5-year period
- Parcels between 10-80 acres increased by 738 in the 5-year period
- Small parcels (less than 10 acres) increased by 2,653 in the 5-year period

The Conversion and Fragmentation Problem

Here are some high-level facts:
- The EMR is losing agricultural land – pure and simple.
- The Alberta Land Institute reported (2016) that the EMR is losing land at twice the rate of the Calgary region but with the same population growth.
- EMR is losing approximately 12,000 acres of farmland each year since 2001. (Alberta Ag)
• Parkland County data is losing farmland 39.2% faster than the Province overall. Since 1996, 37,802 acres has moved to subdivisions.
• Consultations with farmers during Recent Agriculture Master Plans (2014-2017), indicated that fragmentation and conversion are foremost issues.

And we are losing large parcels, precisely what commercial farmers are looking for. In the past five years (2011-2016), we lost 307 large parcels (80-240 acres). Meanwhile, parcels between 10-80 acres increased by 738 in the 5-year period and small parcels (less than 10 acres) increased by 2,653 in the 5-year period. (All Alberta Ag Statistics) All meaning fewer large parcels to farm and more conflicts from non-farm rural residents.
RAMP Objectives

As per the EMR Growth Plan:

1. Identify and conserve an adequate supply of prime agricultural lands to provide a secure local food source for generations.
2. Minimize the fragmentation and conversion of prime agricultural lands for nonagricultural uses.
3. Promote diversification and value-added agriculture production and plan infrastructure to support the agricultural sector and regional food system.
Let me start by saying there are no boundaries, no square metre is left untouched. Instead we have chosen Policy Areas – four in total. Every square metre will fall into one of these four areas.
Policy Area 1 – Rural Agriculture

Goal:

The presence of productive agricultural areas over the long term, encompassing a wide range of agricultural production and agriculture enterprises of varying size and scale.

Including a vibrant agricultural system including input suppliers, services, and community facilities that support the agricultural and rural community.

The largest area – Policy Area 1.
And the area that is traditionally thought of as “the farming area”.

The Simple Imperative for Policy Area 1?
That agriculture and related agricultural uses on agricultural land are the number one priority. All other proposed uses would be examined in terms of how they will impact agriculture – currently and into the future.
Policy Area 2 – Agriculture Complementary to Other Uses

Goal:
The presence of productive agricultural areas is a complementary use over the long term on lands that have other identified land uses and/or constraints.

Includes the recognition of opportunities for agriculture to exist in the interim until the land is required for its designated use.

EMR has significant areas of land that have ‘Other Use’ priorities:
• Alberta Industrial Heartland
• Mining and aggregate extraction
• Country residential
• Environmentally sensitive areas – Beaver Hills Moraine, watershed areas

Agriculture as a complementary use (co-exists)
Keep agriculture on the best lands and for as long as possible
The direction here – encourage development to be contiguous, as intense as possible, leaving agriculture the ability to operate as long as possible with a minimum of conflicts.
Policy Area 3 – Transition Lands Within the Metropolitan Area

Goal:

The agricultural land base that lies within municipal boundaries (or under consideration for growth) based on approve statutory plans.

These lands are recognized as continuing in agriculture production and managed under principles of good land and environmental stewardship until needed for growth.

Simply, the EMR will grow in terms of employment, new business and population. We know how much it is likely or may grow. And the Growth Plan outlines where this growth will occur.

- Recognize that development, both short- and long-term, are the priorities.
- The direction here: once again encourage development to be contiguous, as intense as possible, leaving agriculture the ability to operate as long as possible with minimal conflicts.
Policy Area 4 – Urban Agriculture

**Goal:**

Thriving, engaged urban agriculture expressed in multiple forms and supported by an engaged community.

A wide range of activities can exist including residents, businesses, communities, and organizations.

Built-up areas and the domain of urban agriculture.

- Set of policies that are wide ranging and able to address a variety of conditions, opportunities and available resources ranging from prime land to vacant lots to rooftop gardens. Also, ranging from production, processing, marketing and event creation.
- Recognizes both economic and/or social objectives.
What RAMP Is and Is Not….

RAMP is…

- Elevates agriculture as a priority
- Recognizes the unique economic opportunity for the Region and Province
- Provides certainty for agriculture and growth
- Opportunity for regional leadership in enabling infrastructure and other inputs

RAMP Does NOT…

- Introduce an agriculture boundary
- Restrict, limit or interfere with growth requirements
Considerations for RAMP

- Consistent planning approach and policy structure of the Growth Plan
- Creates the conditions for municipalities to make the best decisions in the interest of and viability of the agriculture sector
- Recognizes agriculture as an important form of land development
- Supportive and harmonized land use policies
- Considers rural landowner pressures
Next Steps

• Stakeholder Engagement Plan
• Policy drafting
• Implementation Plan to include identification of measures of success (KPIs)
• Draft Report and approval

In summary:
• EMR has the opportunity and the asset base to do something special with the industry that has ‘brought’ us here.
• RAMP speaks to addressing opportunity, opportunity and more opportunity and doing it in a thoughtful, comprehensive and ‘smart’ way.
• No square metre is left untouched.
• A policy framework based on priority uses.
• The ability to accommodate all the project growth of the EMR and creating the clear and necessary conditions that will allow the agriculture industry to flourish.
Questions?
Farmer 4.0
How the coming skills revolution can transform agriculture
Taking the Field

A fourth agricultural revolution is underway, and Canada needs to seize it. The Internet of Farming, powered by advanced technologies like autonomous tractors and drone-mounted sensors, is already transforming the way we produce food. But this new generation of agriculture will take a new generation of skills, too. Canada is poised to meet that challenge. No other country has as much land, water or market access — or the education system to develop farmers and food producers who can thrive in a hyper-connected, data-driven economy. And yet our share of global exports is falling and productivity of our farms stalling. It could get worse, as a historic retirement wave begins and young Canadians show few signs of filling the gap. It’s more than an economic imperative. Our food security is at stake, as is our chance to feed the world in more sustainable ways.

To help Canadians understand this critical moment, RBC’s economics and thought leadership team analyzed labour-force data, sector trends and innovations in other countries. We also spoke to farmers, educators and agriculture authorities across Canada, to understand what a new skills agenda could look like. We concluded that with the right mix of skills, capital and technology, agriculture could add $11 billion to Canada’s GDP by 2030. To get there, we need to rethink our approach to education, both for agriculture and the growing range of sectors that affect it; do more to attract young people to farming; and invest in the skills needed to attract a growing immigrant population to the sector. Three previous agriculture revolutions — the domestication of plants and animals, the mechanization of work and the mass scaling of genetic and chemical science — led to profound changes. The fourth will be no less powerful, if we invest in the skills that will shape Farmer 4.0.
Key Findings

1. Canada faces a skills and labour crisis in agriculture, with a projected domestic shortage of 123,000 workers within a decade.

2. Canada could gain $11 billion in annual GDP by 2030 by closing the agriculture labour gap and accelerating investment in technology. This would bring agricultural GDP to $51 billion, making it bigger than automobile assembly and aeronautics combined.

3. Canada’s share of global agriculture exports has fallen since 2000, as developing countries like China, India, Indonesia and Brazil produce and sell more to the world.

4. Canada imports more farm machinery than we make, while our share of global agtech investment is only 3.4%, behind that of India and Brazil.

5. Nearly half (47.2%) of agriculture workers under 40 have a post-secondary or CEGEP education, while those with only secondary schooling or apprenticeships are decreasing in number.

6. Enrolment in post-secondary agriculture programs jumped 29% in the past decade.

7. More than 80% of producers under the age of 40 report using technology; for those over 60, it’s 57%.

8. One-quarter of Canada’s farmers will be 65 or older by 2025.
Meet Farmer 4.0

Over the past century, Canadian agriculture has undergone three technology revolutions, and each has transformed farm and food production skills. In the early 1900s, a proliferation of seeds, fertilizers and machines began to allow subsistence farmers to specialize. By the middle of the 20th century, the spread of diesel- and gas-powered tractors changed things again, turning farmers into farm operators. In the 1970s and '80s, the advent of software and advances in crop genetics changed the role once more, into that of business manager and entrepreneur. Today, a fourth revolution in agricultural technology is underway and it’s all about data. Farmer 4.0 will need to focus on strategy and systems, leaving past tasks to a new generation of smart machines.

**INNOVATIVE**
Tests new approaches and works with new partners

**HIGHLY SKILLED**
Embraces lifelong learning, with a focus on communications, digital and global skills

**DATA-DRIVEN**
Relies on data as much as experience to make decisions

**DIVERSE**
Seeks a wide range of employees, partners and suppliers to solve complex problems
A Growing Opportunity
Skills, technology and the future

Visit a canola farm in Saskatchewan these days, and you may spot a seeder moving up and down the fields without a person in sight. The autonomous DOT platform is the latest disruptive technology to hit farming, and it won’t be the last. The machine (named by the inventor after his mother, Dorothy) drives itself, tells the farm owner about soil conditions and reports back, in real time, how it’s performing in the field.

DOT, which is made in Saskatchewan, is hyper-efficient and may seem like a job-killer. It is anything but. Look more closely at one of the fields where it’s working, and you’ll spot a couple of software engineers, giving chase, to monitor, update and occasionally debug the $500,000 contraption.

It’s just one illustration of the fourth agricultural revolution, which is already demanding new technologies and skills, a fresh management mindset and a more global outlook than the previous generations of food production ever harnessed. And here’s the surprise: even as automation replaces the hard physical tasks that once defined farming, the human quotient in food production appears to be greater than ever.

As we enter the 2020s, Agriculture 4.0 — powered by cognitive machines and a skills-savvy workforce — is starting to determine whether Canada can once again be an agriculture superpower, and do it in a way that feeds an ever-hungrier world, cuts greenhouse gas emissions, and supports thousands of communities that still help define our country.

Coding at the farm gate is just one illustration of the skills revolution underway. Across the Prairies, there are geneticists helping farmers meet the surge in demand for plant-based proteins. In the Okanagan Valley, horticulturalists are working with drones and earth sensors to better program their irrigation systems. In the greenhouses of Ontario, mechanics are tooling robots to pluck berries, while people are being redeployed to optimize growing conditions with market conditions. And farther east, off the coast of Atlantic Canada, lobster crews are working with sensors in underwater traps to gauge the environmental conditions of their catch, and ensure the data moves quickly into the systems of buyers around the world.
A strategic moment

There's no question, the world will need more food in the decades ahead; by 2030, there will be 835 million more people, and only 4 million of them will be Canadian.

Few countries are better positioned than Canada to provide that, and do it sustainably. Since 2011, Canada has consistently ranked as the world’s 5th-largest global exporter of agricultural products. Our producers of oats and corn, as well as fish, pork and cranberries, are among the best, and have the market share to show it.

But equally, Canada could fall behind as the rest of the world moves rapidly into a new age of food production. Our share of global exports fell from 6.3% in 2000 to 4.9% in 2005 to 3.9% today, despite increased output. Yes, more farmers in more places, including China, India and Brazil, are growing more for the world. But Canada’s agriculture productivity has also stalled.

Our access to the world should improve as a result of new trade agreements with Europe, Asia and the United States. The Comprehensive Economic and Trade Agreement, or CETA, eliminated most tariffs on Canada’s agriculture and seafood exports to Europe and its 500 million people, while the Comprehensive and Progressive Agreement for the Trans Pacific Partnership, or CPTPP, gives Canadian producers preferential access to 11 countries, including Japan, Vietnam and Australia, that represent another 500 million people and 13.5% of the world’s economy. The U.S.-Mexico-Canada Agreement, or USMCA, may be the most important of all, securing continued access to the world’s most advanced — and competitive — markets.

To seize on those opportunities, Canada needs to transform the way we produce food, and market it globally. If we don’t, the sector will likely grow by only 1.8% annually on its current path of declining productivity, raising output to around $40 billion in 2030 from $32 billion today. But if we accelerate the adoption of innovative technologies and embrace an ambitious skills agenda, our research indicates Canada’s agricultural productivity can get back in line with the recent 10-year average of 3%. The payoff: another $11 billion of output, bringing agricultural GDP to $51 billion in 2030.

We can add even more if we follow the lead of the Netherlands or Australia to develop world-class skills and embrace a culture of innovation across the sector.

Potential for Agricultural Sector Growth

Billions of 2018 $

$11 billion

Potential new agricultural output to be gained by 2030 by embracing an innovative skills agenda.

Source: RBC Economics, Statistics Canada, CAHRC
Agriculture’s skills crisis

Mention labour-force challenges in any conversation about agriculture, and concerns are likely to turn to supply. We don’t have enough people, and that’s before the sector considers a decade-long demographic crisis that’s about to begin. In a sector that shed 31% of its workforce over the last 20 years, there remain 16,500 vacancies, even after adding 60,000 foreign workers. Within a decade, the Canadian Agricultural Human Resources Council expects as many as 123,000 jobs to go unfilled by Canadians.

There’s one simple reason: by 2025, one in four Canadian farmers will be aged 65 or older, and over the next decade 37% of the agricultural workforce will be set to retire. Moreover, Canadian youth are not looking to replace them, with 600 fewer young people entering the sector every year. Just look at any population map to see the challenge. Canada’s cities have grown by more than 50% over the last three decades, to 25 million; our rural population has stayed flat at 6 million.

That’s the quantity challenge. We’ll need a shift in quality, too.

Some elements of Canada’s approach to agriculture skills are already ground breaking — such as the scientific knowledge and practical experiential learning that 30,000 students in post-secondary agriculture programs are exposed to. Six Canadian universities rank in the top 100 agriculture and forestry programs globally, according to the widely respected QS World University Rankings. Another piece of good news: the number of students in ag programs has jumped 29% in the past decade — a faster pace than the 21% growth across all programs.

But in the decade ahead, we will need a lot more of that — as well as a better approach to lifelong learning for those already at work, and a continuous approach to new skills. It’s not just digital skills. Across the country, we heard about the need for agriculture managers with experience in human resources and integrated systems management, and more exposure to programs focused on finance, engineering and environmental studies.

**OPPORTUNITIES FOR GROWTH**

*Only 0.08% of Canada’s agricultural exports (almost exclusively wheat) go to Nigeria, where the population could double by 2050.*
Farmer 4.0 will be working in office towers, data centres and engineering labs around the country, plugging into the people and machines that can turn our land and water into a hyper-efficient, and sustainable, food source for the planet.

The technology gap

All those new skills will need new technology, too, if they’re to reach their potential. Unfortunately, Canada is lagging in the agtech race.

Canadian farmers rely heavily on government-supported funding for new technologies and processes. Even accounting for Canada’s smaller size, private investment in R&D is a tiny fraction of what U.S. firms invest in the industry.

Meanwhile, global investment in agtech is booming. It hit a record of US$16.9 billion last year, up 43% from 2017. Of that, about US$6.9 billion was invested in technology specifically related to food production. While Canada ranked in the top five, our share of global agtech investment was 3.4%, or less than that of either India or Brazil, emerging economies that have significantly boosted their market share in agricultural exports in the last two decades.

OPPORTUNITIES FOR GROWTH

Aquaculture is expected to surpass capture fisheries as the most important source of fish and seafood worldwide by 2022. Canada currently produces 0.2% of the world’s aquaculture products.

The capital question

Canadian farming will also need more capital.

Agriculture is a capital-intensive business. It always has been. Which makes it tough to compete in a new economy that thrives on software and puts an ever-greater value on intangibles.

In 2016, the Canadian agriculture sector held $510 billion in capital assets, with land and buildings comprising more than 80% of that value.

Farmers’ access to credit is also surprisingly low: Canadian agriculture has a 1.9% share of national commercial lending. The global average is 2.9%; in New Zealand, it’s 14.1%.

While Canadian farms hold substantial capital wealth, high operating and asset-serving costs weigh on profitability — and make the challenge of drawing new talent even greater. Current expenses alone eat up some 83 cents of every dollar of sales, hampering producers’ ability to invest in new technologies or skills.

The capital intensity is one of the reasons so many operations stay family-owned and operated, and stands as a barrier to young, Indigenous and new Canadians thinking about a career in agriculture.
Thinking global

The good news is Canadian food producers are getting more competitive and more global. By one measure, 7.6% of Canadian farms achieved more than $1 million in annual sales in 2016, compared with less than 2% two decades ago — and well above the 2.9% for U.S. farms.

The economic benefits of a more efficient sector are there. So, too, is the imperative of feeding close to 9 billion people by 2030 while not damaging the planet for the decades ahead. More technology, more skills and more people can help, if we get the ingredients right. But Canada will need to take a more focused approach to how we develop and support the agriculture workforce of tomorrow.

OPPORTUNITIES FOR GROWTH

In India and Pakistan, where meat isn’t a significant source of protein, consumption of dairy products is expected to rise substantially. Advances in technology and transportation could solve a key challenge: because they spoil easily, dairy products are difficult to trade internationally.
We've looked at the constraints and opportunities facing food producers over the next decade and argued that an ambitious skills agenda could help reposition Canada as a more efficient, sustainable and competitive global leader in agriculture.

To see how, we used our Humans Wanted model of skills clusters to create five categories of agriculture workers and assess which ones will be in demand and what skills will be needed to meet that demand.

How will disruption transform these roles? What skills and experience will they need? And what education and training programs will help prepare these groups for a decade of transitions?

Food Producers of the Future
What the landscape could look like in 2030

AGRICULTURAL JOBS UNFILLED BY CANADIANS
2017: 63,000
2029: 123,000
Source: CAHRC
The Decider

These are the entrepreneurs at the core of agriculture, the people who operate businesses ranging from single-family farms to large-scale vineyards. They make critical choices regarding hiring, capital investment and product allocation, and face little risk of automation. While they’ll remain the backbone of the sector in 2030, deciders will need to manage ever-larger and more technologically complex operations, and will need the leadership skills and digital expertise that go along with that shift. Business skills, technology awareness and people management will be more in demand than ever. And the biggest need? More critical thinking. Recognizing this need, the Ontario Agricultural College at the University of Guelph has added communications and business skills development to a program that has been training farm operators and agriculture leaders since 1874. One key challenge: due to farm consolidation and an aging workforce, the number of deciders is shrinking faster than the demand for their entrepreneurial spirit and business acumen.

Labour Profile by 2030:
Demand: 135,570    Demand Growth: -1.4%
Shortage: 17.2%

Automation Profile:
Probability: 5.4%

Phil Tregunno
Owner/operator
Tregunno Fruit Farms, Niagara-on-the-Lake, ON

“Automation is already here. It definitely won’t take 30 years before the industry is completely transformed.”

Phil has seized the opportunity provided by the retirement of local farmers to expand his family farm into an 850-acre tree fruit and wine-grape operation in Ontario’s Niagara region. He buys a new farm every year, and employs around 130 people during peak season — including 30 Mexican families who return year after year under Canada’s Temporary Foreign Worker program. Phil now has his sights set on displacing some of the imported fruit that’s found in abundance on Canadian grocery store shelves. Helping him compete against powerful rivals will be RFID (radio-frequency identification) tags to track produce from the tree or vine right to the container, and an automated box filler that uses imaging technology to grade each piece of fruit. While investing in the latter has enabled Phil to cut the number of workers needed to pack a trailer from 20 to 3, he’s opted to re-allocate that labour back into harvesting.
Tanton Archdekin
Agriculture equipment technician
Cervus Equipment, Saskatoon, SK

“Producers want the most efficient machines, and that means the most accurate data. If a sensor or implement is out of alignment, they can see it on their bottom line.”

On any given day Tanton is working at a different farm on tractors or combines, sprayers, seeders and bailers. These machines no longer serve single functions, as they are loaded with software and sensors collecting data and generating insights. To keep pace, Tanton — a journeyman welder and Saskatchewan Polytechnic grad — is in a constant state of learning, whether reviewing technical manuals or out in the field. He left the mining sector to pursue agricultural mechanics, seeing how technology was changing the industry at an incredible rate. Now he is on the front line of that change, making sure each farm’s machinery produces the efficiencies that his clients are striving for. Next up: hybrid drivetrains and autonomous tractors.

The Enabler

These are the skilled workers who supply, service and program the machinery and equipment that enable farms to function. They assess an operator’s equipment needs and install machines and technology that augment or supplant human labour. Enablers will play a critical role as agriculture becomes more automated, providing the technical know-how for digitally enabled farms. The skills growing in demand include software and user interface, leadership and business acumen, and the ability to install and repair equipment. Enablers will also need critical thinking skills and the ability to monitor complex technology and manage diverse groups of people. The University of the Fraser Valley is developing enablers with a two-year Agriculture Technology diploma program that provides specialization in either horticulture or livestock production, in conjunction with the university’s automation and robotics program. Supply constraints mean enablers will increasingly need to come from outside agriculture, from fields like engineering and computer science, raising the need for more education programs that cut across disciplines.

Labour Profile by 2030:
Demand: 24,762 Demand Growth: 8.7%
Shortage: 17.6%

Automation Profile:
Probability: 51.9%
The Specialist

While specialists form a smaller group, they’re the piston in the sector’s productivity engine. Specialists range from plant scientists and livestock managers to regulatory experts, whose technical know-how will be critical as operators try to keep pace with the world. Properly harnessed, they’ll also be crucial to securing Canada’s global brand for clean, sustainably produced food. The specialists of tomorrow will need more than subject-matter expertise, however. They’ll have to be skilled in data analytics and precision agriculture, with an ability to communicate and collaborate with specialists from non-agricultural fields such as blockchain, artificial intelligence and intellectual property rights. The biggest general needs? Judgment and decision-making, followed by active listening. To develop more specialists, the Marine Institute of Memorial University in St. John’s has developed a one-year post-graduate program in Sustainable Aquaculture, which mixes classroom instruction with three months of workplace training.

Jessica Landry
Genomics and animal health specialist
Ferme Landrynoise, Saint-Albert, QC

“I got my training to see how things worked elsewhere and to bring that knowledge back to the farm, to improve what we do. Working with animals is never the same, so I need to keep up on the latest developments.”

Jessica had a significant incentive to earn a professional diploma in milk production and animal health from the CEGEP de Saint-Hyacinthe: her family owns Quebec’s largest dairy operation, a 4,000-acre spread whose herd includes 1,200 milking cows and produces 39,000 litres of milk a day. Her father and uncles run the business end of the farm, which employs about a dozen staff and 28 robotic milking units. Jessica specializes in genetics for the herd, managing breeding and calving and other aspects of health for the farm’s 2,500 animals. Data is becoming even more important to her role to track output and wellbeing of the cows and to develop care plans with veterinarians.
Israel Pillar-Perez  
General labourer  
Jost Vineyards, Malagash, NS

“The type of work I do hasn’t changed a lot over 12 years. I mainly work with my hands. It’s very physical work. I learn as I go, about different crops and ways of doing things, often with help from the other workers.”

Israel has provided general labour on a series of farms across Canada for the past dozen years, supplementing his Canadian-earned income with periods of construction work at home in southern Mexico. While he’s tended to a variety of crops from cucumbers to cauliflowers, his placements have all depended on manual skills. At Jost Vineyards, Israel’s work involves everything from planting and pruning to harvesting. He’s received on-the-job training and has learned to drive a tractor, though his limited command of English has been a barrier. Israel plans to continue to work seasonally in Canada’s agriculture sector as long as he can. He believes demand for skills like his will continue, based on what he’s observed in stints on farm operations in Western and Central Canada and now, Nova Scotia.

The Doer

Doers provide the heavy lifting of agriculture, and for the most part represent general farm labour. While there are almost as many doers as decision-makers, they’re largely seasonal workers from other countries performing low-skill harvesting and packing work that many Canadians reject. The demand for them will increase in the short run — to as many as 115,000 foreign workers by 2030 — and decrease in the long term, presenting a critical transition challenge. Doers face significant disruption from automation, with a 94.2% probability that some of their skills will be replaced by machines in the future. That won’t happen overnight, however, because of the delicate nature of agricultural labour. Consider a fruit operation, where robots cannot yet pick small berries or identify ripe fruit. As technology advances, the biggest need for doers will be the things machines can’t yet provide: judgment, fine dexterity and digital interfacing skills. To manage this transition, Canada may need to provide retraining programs for labourers, even for those on temporary work permits, as they may be needed to fill the void left by retiring operators and supervisors.

Labour Profile by 2030:
Demand: 165,543  Demand Growth: 8.5%
Shortage: 51.2%

Automation Profile:
Probability: 94.2%
The Advisor

These are the highly educated and experienced consultants and strategic thinkers — think agronomists and financial advisors — who help farm operators make critical decisions on everything from capital allocation to business expansion and export strategies. As agricultural businesses become larger and more complex, the demand for outside consultants with deep, data-driven expertise will expand. To excel, advisors will need foundational skills that include critical thinking, communications and math. Specific skills in demand will include agronomy and data analysis (which is in short supply everywhere). To help develop advisors, Olds College in Southern Alberta created a post-diploma certificate as a pathway into the sector for non-agriculture graduates from, say, finance or global affairs programs. The college, in 2018, launched a Smart Farm to connect students with new technologies, like digital weather stations and wireless grain bin sensors, and help them develop their abilities to make evidence-based decisions to improve productivity, profitability and sustainability. Such “techgronomy” training will prepare them to advise operators in any field.

Labour Profile by 2030:
Demand: 18,146  Demand Growth: 7.5%
Shortage: 22.3%

Automation Profile:
Probability: 42.8%

Dale Steele
Precision agriculture consultant
Steele Ag Insights, Lethbridge, AB

“We have a supply problem in precision agriculture. Colleges and universities need to prepare the next generation of ag workers with knowledge on software, agronomics, equipment and data tools.”

Dale’s two-year-old company provides expert agronomy advice to large grain and beef producers in Canada and the U.S. A University of Alberta-educated agricultural economist, Dale wears many hats: he’s a consultant, researcher, software specialist and author on innovative farm techniques. He wrote a 2017 report for the Canadian government on the adoption of precision farming techniques in Western Canada. He’s also an ag communicator and educator who’s served as a special lecturer and adviser on drafting university and college courses. Dale advises clients on productivity-enhancing technologies such as ground and satellite remote sensing and drones, using his expertise to help determine the right mix of data, equipment and processes for farm operators.
The Next Frontier
Where technology is taking the sector

Technology and innovation already play a central role in Canadian agriculture, and an increasingly educated workforce possesses many of the skills that will serve the sector in the future.

The challenge is this: overall adoption and usage of advanced technologies is uneven. Precision agriculture — which analyzes data at the granular level to maximize output — is the norm among Western Canadian crop producers, who’ve largely handed the physical work of farming to machines. Contrast that to the greenhouses and fruit farms of southern Ontario, which continue to rely on low-skilled, physical human labour.

Ease of implementation is one of the explanations. Some farm production, such as cow milking, is simply easier to automate. Fruit picking, which requires judgment and dexterity, has been more resistant. Capital is another barrier: advanced technologies may have the potential to cut operating costs in the long run, but they are expensive to acquire and implement.

While the extent of technological adoption varies, two things are clear: the bigger the farm, the more likely it is to use advanced technologies as part of its farm-management practices. And the younger the producer, the more likely he or she is to be using advanced technologies.

90% of crop producers across the Prairies use GPS to guide and track equipment.

52% of the biggest oilseed and grain farms are using advanced GIS (Geographic Information System) technology.

Source: Steele Ag Insights
Recent trends — bigger farms, more educated agricultural workers — suggest automation will gain ground in the 2020s, and the impact on farm operators could be significant. When faced with shortages, 20% of Canadian producers have resorted to overtime in the last year, while only 14% have adopted improved technologies. Another 8% opted to restructure or eliminate functions, losing out on sales and growth opportunities.

By analyzing data on farm operations’ human capital and machinery-related expenses, we’ve created a framework to better understand which agricultural segments are furthest along in terms of technological adoption and what that means for the evolution of skills in the coming years.

### Generations of Automation

Relative spending on labour and machinery by sub-sector, 2017

- **Frontier**: Complexity of manual tasks has slowed pace of automation
- **Transition**: Barriers to adoption still exist, notably cost of machinery
- **Entrenched**: Machinery has replaced physical labour-intensive work

Source: Statistics Canada, RBC
In sectors where automation is already entrenched, including beef feedlots and grain farms, headcount is unlikely to fall further.

We’re more likely to see labour adjustments in sectors still in transition with regards to automation, such as poultry production and aquaculture. For instance, over the last five years, human capital spending in aquaculture nearly halved relative to machinery spending as more technology is being used to meet global demand.

Why Deciders choose to automate

• 7% industry vacancy rate
• 67% face hiring pressures
• Rising minimum wage
• Foreign labour restrictions
• Changing food safety regulations
• Improving workplace safety

In sectors that are still human-intensive, such as greenhouses and field fruits, automation will cause more fundamental changes to headcount, primarily for general labourers, as well as to skills. With machines that can pick and pack produce, the new roles will require workers to interpret data not ripeness.

Producers using advanced technology

81% 57%
Under the age of 40 Over the age of 60
Source: Statistics Canada

The Game-Changers
How new technologies are changing old skills

ROBOTIC MILKING MACHINE
Lely Astronaut
Cost: US$200,000
Impact: reduces labour time by 75%
Skills shift: from milker to data analyst

OPTICAL POTATO SORTER
Celox XT
Cost: US$225,000
Impact: doubles the capacity of a packing line
Skills shift: from sorter to harvest manager

STRAWBERRY HARVESTER
Agrobot
Cost: US$100,000-$250,000
Impact: picks five or more rows of produce at once
Skills shift: from fruit picker to logistician

AUTONOMOUS SEEDER
DOT
Cost: US$500,000
Impact: cuts fuel consumption by 20%
Skills shift: from driver to software engineer

VERTICAL FARMING
AeroFarms
Cost: US$39 million to build
Impact: 30 times more produce per acre
Skills shift: from operator to systems designer

Producers using advanced technology

81% 57%
Under the age of 40 Over the age of 60
Source: Statistics Canada
Where the World is Going

Countries that are leading the way

**The Netherlands: Digitizing the greenhouse**

The birthplace of the greenhouse is the world’s second-largest food exporter (in dollar value) behind the U.S. exporting US$101 billion of products. That’s despite the Netherlands ranking 135th in the world in terms of land area. The Dutch remain leaders in glasshouse horticulture, but now they’re operating fully digitized greenhouses where climate control is just the start: watering, fertilizer application and monitoring of CO2 levels are also fully automated. Dutch greenhouses supply 50% of the world’s floriculture exports, a third of the world’s vegetable seeds and 20% of its tomatoes. The country boasts a world-class agricultural institute, Wageningen University, which continues to improve greenhouse technology and is leading agriculture’s answer to the Internet of Things: the Internet of Food and Farm. The European initiative wants to make precision farming a reality by using sensors and data to create a more sustainable food system. Farming is an academic pursuit in Holland: three-quarters of its young farmers have a Bachelor’s degree or higher, compared with 21% of Canada’s under-40 farm operators.
**Norway: Turning salmon into science**

Norway’s most notable farming takes place underwater. The country is the world’s largest exporter of freshwater salmon, providing 58% of global salmon exports. That’s more than twice the exports of the next-largest global salmon exporter, Sweden. Protecting that commodity is serious business in Norway and is one of the reasons its Seafood Innovation Cluster partnered with IBM to develop AquaCloud. The platform uses AI to predict outbreaks of sea lice, one of the industry’s most significant threats, costing it just over US$500 million a year. Norway also exports aquaculture technologies to countries like Chile and Canada. The country’s aquatech cluster expects agricultural technology exports to reach US$7.8 billion by 2030. Preparing the next generation of fish farmers occurs at the Arctic University of Norway’s Norwegian College of Fishery Science, where students and researchers are using blockchain to manage marine resources. The college is one of only a handful in the world that trains aquaculture specialists, and it uses an applied interdisciplinary model. Its SimFish Game challenges students to solve or cope with real-life challenges like loss of seafood quality or unregulated fishing.

**California: Where robots tend to strawberries**

Just an hour away from Silicon Valley lies Salinas Valley, which produces more than one-third of the vegetables and two-thirds of the fruit that ends up on U.S. grocery shelves. Salinas Valley has long been America’s fruit basket; it’s now also an agtech hub. Much of the impetus for that development has come from the region’s insatiable need for pickers and packers. Indeed, for every job applicant in the California agricultural industry, there are four available positions, and labour shortages in the sector are twice the national average. As a result of those shortages and uncertainties around undocumented farm workers, the California industry has been heavily focused on automation, using it to perform tasks ranging from thinning out weeds in the field to harvesting lettuce to inspecting strawberries. Researchers at the University of California at Davis are working on solutions to the state’s persistent labour problem. The university’s top-ranked College of Agriculture and Environmental Sciences developed an innovative strawberry breeding program that patented two varieties of strawberries, which require less labour to maintain and harvest and are more resistant to disease.
Australia: Crypto on the cattle ranch

Beef is big business in Australia, generating US$2.5 billion in export sales last year. Australia produces 10.3% of the world's beef exports, and is the third-largest global producer behind the U.S. and the Netherlands. Managing that money-making herd has generated a lot of innovation. The country’s national science agency, the Commonwealth Scientific and Industrial Research Organisation, has worked with partners to develop virtual fencing systems, smart livestock ear tags and a digital tool called eGrazor, which measures a cow’s food consumption. CSIRO also funds graduate scholarships in digital agriculture at four Australian universities. One of those, the Queensland University of Technology, has developed a technology called BeefLedger that uses blockchain to track Australian beef at all stages of the production process. The goal: mitigating beef fraud and preserving Australia’s reputation as a trusted supplier of healthy meat. The university also created a corresponding digital cryptocurrency called BEEF Token to serve as the foundation for BeefLedger.

Israel: Feeding a nation on drops of water

Decades ago, Israel came up with a novel way to harness scarce water for farming to solve two major problems: only one-fifth of the country’s land is arable, and for political reasons it trades little with neighbouring countries. Its solution, drip irrigation, has transformed Israeli farming and been exported the world over. The country has since become the global leader in digital fertigation, which employs sensors and cloud-based analytics to determine the targeted release of water and fertilizer directly onto a plant's roots. One of Israel’s success stories is citrus, even though the country accounts for only 1.3% of world citrus exports. Israel’s strength is self-sufficiency. It imports just 9% of its food and agricultural products, mainly grains from the Black Sea region. Israel’s somewhat unique geopolitical situation and social structure — collective farms and mandatory military service — have combined to produce generations of innovators. Some of Israel’s agtech business leaders served in the country’s Military Intelligence Directorate, where they acquired critical software-development skills as part of their training. The country’s Ministry of Agriculture has also tapped private funding to set up 22 regional agricultural R&D centres to drive innovation; almost half of the country’s total R&D spending has gone to these centres.
You can see the future of food production on open Prairie fields and remote fish farms. You can also find it in a bland industrial park in Burlington, Ontario. There, Scott Byers is developing an 11,500-square-foot indoor vertical farm he believes will transform Canada’s production of chives, basil and other herbs. Back40Growers already ships more than 100,000 herb packets a month to local supermarkets; he thinks there’s enough demand in southern Ontario alone to grow that to 250,000 packets. But to do that, Byers will need more mechanical engineers, electricians and horticulturists, and probably fewer labourers, to help scale up his packaging line.

The skills challenge at Back40Growers is playing out across the country, as food producers look to leverage (and pay for) new technologies with advanced skills — enablers and specialists — and fewer of the general labourers who have shaped agriculture for generations.

How can we help them? Policy makers, industry and educators are beginning to recognize their shared responsibility in getting this right. They’ll need to do more, to attract youth to the sector, and ensure it’s connected to the digital skills remaking every other sector. Here’s some of what we can do:

1. Fill the talent pipeline

The average Canadian farm operator is 55 years old. By the mid-2020s, the industry will begin to descend a retirement cliff. Attracting youth to careers across food production is critical. The same goes for women, new Canadians and Indigenous people. Big barriers remain, including awareness, access to capital and land, as well as the physical nature and remoteness of the work.

There’s much room for improvement:

- 600 fewer young people are starting careers in agriculture each year, despite higher-than-average growth in post-secondary agriculture programs
- Women account for only 28% of farm operators
- Immigrants represent 1 in 14 of the agricultural population, compared with 1 in 5 of all Canadians
- Only 1.9% of farm operators are Indigenous, despite nearly 9 million acres of territorial land

Technology promises to open agriculture opportunities to non-traditional sources of talent. Automation will also help to make these jobs more accessible by reducing physical demands and creating a more “normal” work arrangement. But a tech-heavy farm sector will still have to compete with other sectors for this talent.

The nation is at a critical moment where the agricultural workforce can be restocked with future-focused, productivity-enhancing skills. Leadership from groups like the Canadian Agricultural Human Resources Council is essential to getting the demographic shift to work to our advantage, reconceiving farming in Canada — who, how and what — within a decade.
2. Innovate alongside skills

First movers on technology will have an advantage on knowledge acquisition. Canada needs to find new ways to commercialize technology, which goes hand in hand with the skills revolution. When tomorrow’s technology is developed here, we can also cultivate the next generation of skills to go with it.

Currently, 67% of the machinery used on Canadian farms comes from other countries. To work with these technologies, we in essence import the skills and knowledge that come with them. Our training, research and even job descriptions are designed around imported technologies. Capturing cutting-edge skills demands that Canada also lead on innovation in agriculture, and in bringing these solutions to market.

The Canadian Agri-Food Automation and Intelligence Network is one avenue to achieving these gains. Led by Alberta Innovates and the Vineland Research and Innovation Centre, it aims to cluster funding and expertise to develop exportable farming solutions. What’s promising too, is their inclusion of educators like Lakeland College and Olds College, to give students an early view into their innovations.

3. Agriculture as inter-disciplinary

Training Farmer 4.0 is an inter-disciplinary effort, blending food and land systems into non-agriculture teachings. We hear from employers in agriculture that they’re looking for workers that are creative, adaptable and self-starters. Exposing those keen on entrepreneurship or education or engineering to the challenges present in modern agriculture could bring more highly skilled people to the sector.

This is a focus at the University of Saskatchewan, where food production is being built into the computer science program. At the University of Winnipeg, physics and computer science faculty lead a digital agriculture project that is bridging research on machine learning and agriculture. Another way to do this is through work-integrated learning, bringing different skills sets, say from healthcare or data science, into an agricultural operation. The University of British Columbia offers a 4 to 6 month practicum to students and mature learners of all disciplines at the UBC Farm in Vancouver.

In part, this is needed to catch up with existing trends; nearly three-quarters of farm operators under 40 who attended college or university majored in business, health, education and technology. The earlier this integration of agriculture and non-agriculture learning can be done the better, starting in K-12, as 26% of young farm operators entered the industry directly from high school.

4. Plan for automation

Machine replacement has been routine in agriculture, with tractors, combines, graders and sorters dramatically reducing the number of tasks necessary for human intervention. The challenge ahead will be to equip the workforce with the necessary digital and human skills for the tasks that remain.

By the end of the 2020s, nearly two-thirds of job shortages in agriculture will require manually intensive, lower skilled tasks. The immediate solution will be to continue filling these roles through the Temporary Foreign Worker program, which could grow its share of the sector’s workforce from 17% to 27% by 2030. The eventual solution for many of these roles will be automation.

To lead in the skills shift, we need to plan ahead of market forces. Unknowns remain, particularly around when these technologies will be scalable. Yet, our understanding of the future state of agriculture must inform how we train, hire and allocate resources today.
Call to Action

- The federal government should convene a national skills strategy for agriculture, together with employers, workers, educators and industry groups, to plan for future labour needs
- Industry groups should coordinate efforts on a bold campaign to attract and retain more youth, women, Indigenous people and new Canadians in agriculture
- The national work-integrated learning strategy should incorporate agriculture as a key sector, to increase exposure for non-agriculture students across the agri-food industry
- Ensure all major research and development initiatives, such as the Protein Supercluster, are linked to education and skills development
- The federal government should reduce barriers to high skilled immigration to agriculture, and consider a dedicated service channel under the Global Skills Strategy
- Accelerate the development of industry-wide data governance standards, in accordance with Canada’s Digital Charter, to increase access to the best data and insights on food production
- Fulfill the federal commitment to provide high-speed Internet to the remaining 1.5 million rural and remote households within 10 years, giving them access to online learning and cloud computing
- Learn and apply lessons from countries like the Netherlands, Australia and Israel on approaches to agricultural human capital
- Recognize agriculture’s centrality to Canada’s future health and prosperity
Roles and Responsibilities of RAMP Stakeholders

Recommended Motion: That the Regional Agriculture Master Plan Task Force endorse the Roles and Responsibilities of RAMP Stakeholders to inform further work on RAMP.

Background

- The outcomes of Regional Agriculture Master Plan (RAMP) will rely on the collaborative efforts of key regional stakeholders, all with a role to play to enable the growth in the agricultural sector, including:
  - EMRB and RAMP
  - Municipalities
  - Edmonton Global
  - Province
  - Other Stakeholders
- The Roles and Responsibilities of RAMP Stakeholders Matrix is intended to provide clarity and demonstrate the need for collaboration to enable the successful implementation of RAMP.
- Through outlining the Roles and Responsibilities, regional stakeholders will collectively work in a unified effort to achieve a successful RAMP and reduce duplication of efforts across the Region.

Next Steps

- Task Force discussion and feedback around the Roles and Responsibilities of RAMP Stakeholders.
- Roles and Responsibilities of RAMP Stakeholders Matrix will continue to inform RAMP policies and will set an important framework for RAMP engagement.

Attachments

1. Roles and Responsibilities of RAMP Stakeholders Matrix
## Roles and Responsibilities of RAMP Stakeholders Matrix – For Discussion

<table>
<thead>
<tr>
<th>Province</th>
<th>Edmonton Global</th>
<th>EMRB/RAMP</th>
<th>Municipalities</th>
<th>Innovators, Investors and Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Policy Leadership (and legislative oversight) to support the viability of the Agriculture Sector at a provincial level</td>
<td>• Market the Region based on identified regional assets and identified competitive advantages focused on specific sectors</td>
<td>• Coordinate regional land use planning</td>
<td>• Implementation of the Growth Plan and RAMP</td>
<td>• Post-Secondary and research institutes</td>
</tr>
<tr>
<td>• Canadian Agricultural Partnership grants to support efficiencies, innovation, sustainability and advocacy</td>
<td>• Leverage policy directions from Growth Plan and other adopted EMRB Plans to develop our value proposition</td>
<td>• Develop a Regional Agriculture Master Plan to further inform the Growth Plan and achieve the following outcomes:</td>
<td>• Monitor and report progress – incorporate an agricultural lens in municipal planning and operations</td>
<td>• Producer groups</td>
</tr>
<tr>
<td>• Focused Business Development Services for food processing, bio-industrial, crop, livestock, etc.</td>
<td>• For example, if RAMP and EMRB agree to primary ag use in Policy Area 1 (again illustrative only) Global then markets our Region as having 1.6M acres of ag land as its first priority use. It provides confidence to the potential investors of the future access to resources needed</td>
<td>• Local food security for future generations</td>
<td>• Investment Readiness - Understand what agri-business opportunities exist within municipality and promote more of the same, capitalize on emerging opportunities including synergies across businesses and sectors</td>
<td>• Policy agencies</td>
</tr>
<tr>
<td>• Canadian Agricultural Partnership, grants to support expansion and research</td>
<td>• Attract foreign investment to the Region</td>
<td>• Protection of a supply of prime agricultural lands</td>
<td>• Infrastructure Planning - Availability of serviced lands</td>
<td>• Land use agencies and advocates</td>
</tr>
<tr>
<td>• Trade services domestically and internationally</td>
<td>• Collaborate across stakeholders in addressing gaps/barriers preventing investment in agriculture, agri-food and value-added agriculture</td>
<td>• Land use and infrastructure planning to support the growth of the sector</td>
<td>• Economic Competitiveness - Preparedness to respond to an RFI – involving processes, procedures and data that are all connected and aligned</td>
<td>• Thought leaders</td>
</tr>
<tr>
<td>• Investment attraction at provincial scale</td>
<td>• Regional/Provincial/Federal infrastructure readiness – monitoring conditions affecting movement of goods and market access</td>
<td>• Policy direction to minimize fragmentation and conversion of prime ag lands</td>
<td>• Alignment of planning and economic development departments to mutual outcomes through business licensing (if applicable) etc.</td>
<td></td>
</tr>
</tbody>
</table>
- Assurance and access to markets
- Program delivery (e.g., farm fuel)
- Research and extension through agencies such as Alberta Innovates
- Rural Utilities – govern and support
- Analyze and report on state of the industry
- Approval for the adoption of RAMP policies as an amendment to the Growth Plan
- Includes – Agriculture and Forestry; Alberta Environment
- Economic Investment and Trade, Alberta Transportation, Alberta Infrastructure

- Advocacy to support and promote the diversification and value-added agriculture production as well as Regional planning and the prioritization of infrastructure to support Agriculture and Agri-food Sector
- Plan and prioritize infrastructure to support Agriculture and Agri-food Sector
- Education & Awareness of the Growth Plan

- Offering flexibility, attitudinal change, creative problem-solving
- Open for business – removing barriers that may hold up conventional and nonconventional agri-food opportunities
- Leadership and collaboration sub-regionally and regionally on big ideas (e.g., food hub)

<table>
<thead>
<tr>
<th>Shared Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Education &amp; Awareness</td>
</tr>
<tr>
<td>• Monitoring &amp; Reporting</td>
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</tbody>
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RAMP Task Force Meeting

Agenda Package February 27, 2020

Page 2 of 81
RAMP Policy Update - Introduction, Context, Overarching Policies, Policy Matrix Overview, and Policy Area Maps

Recommended Motion: That the Regional Agriculture Master Plan Task Force endorse the RAMP Policy Update to inform further work on RAMP.

Background

- On October 28, 2019, the Draft Policy Area Map and Refined Policy Directions were presented to the Regional Agriculture Master Plan (RAMP) Task Force.
- The RAMP Working Group facilitated two breakout sessions with the Task Force on the perceived value of RAMP and feedback regarding the draft map and policy directions for each policy area.
- Following the presentation and breakout sessions, the RAMP Task Force unanimously endorsed the draft policy area map and refined policy directions to inform the development of RAMP policies.
- Since October 2019, the Working Group and Sub-Committee have met eight times to incorporate Task Force feedback and further refine the policy area maps and develop draft RAMP policies for each policy area.
- Overarching Policies were also developed to apply to all policy areas.
- Further work was completed to refine objectives for each policy area to ensure clarity.
- Policies specific to each policy area is ongoing and continues to be refined and are summarized in the RAMP Policy Matrix Overview.
- The intent of the matrix is to elicit discussion and gather further feedback and direction from Task Force members to further the draft RAMP policies.

Next Steps

- Future work
  - Additions and revisions to draft RAMP Policies
  - Finalize and implement the Engagement Plan
  - Initial discussion on an Implementation Framework and Plan

Attachments

1. RAMP Policy Matrix Overview
2. Ontario Federation of Agriculture Article, February 14, 2020
Introduction and Context

The Edmonton Metropolitan Region Growth Plan ("the Growth Plan") identifies agriculture as one of six regional policy areas, noting that:

- Agriculture is the largest land use in the Region,
- Agriculture is a key economic sector in the Region, and
- Agriculture and agricultural land are irreplaceable resources for local food security.

The Growth Plan also requires growth in the Region to be managed to ensure the viability of the agriculture sector, and that the factors placing pressure on the agricultural land base must be addressed.

The Growth Plan Agriculture Policy Section establishes the Guiding Principle to ensure the wise management of prime agricultural resources and three Objectives:

1. Identify and conserve an adequate supply of prime agricultural lands to provide a secure local food source for future generations
2. Minimize the fragmentation and conversion of prime agricultural lands for non-agricultural uses
3. Promote diversification and value-added agriculture production and plan infrastructure to support the agricultural sector and regional food system

The Edmonton Metropolitan Regional Board ("the EMRB") has also prepared the EMR Economic Imperative for Agriculture ("the Economic Imperative") which highlights how the growth potential of the agriculture industry could increase the size of the regional economy. The Economic Imperative shows why the future of agriculture is important to the Region. The Regional Agriculture Master Plan ("the Master Plan") creates the conditions for what must be done to support and enable this growth.

The EMRB established the Regional Agricultural Master Plan Task Force in February 2018. In October 2019, the Task Force approved draft Agriculture Policy Areas, a map of the Policy Areas, and policy directions to act as a framework for preparation of the Master Plan – a regional policy framework to support the growth of agriculture in the Region to 2044.

The Master Plan also builds on recent work on agriculture by EMRB member municipalities, particularly the Counties of Leduc, Parkland, Strathcona and Sturgeon. Reports completed for each municipality came to the same conclusion – agriculture in the Region faces challenges but also represents a significant opportunity.

A Situation Analysis report ("the report") completed by the Board in August of 2018 which included a comprehensive overview of the global trends affecting agriculture, a historical context for agriculture in the Region, a current state and gap analysis for the sector, and identified future challenges and recommendations for enabling a sustainable agriculture sector in the Region.

The report identified how historic growth patterns of development, generally referred to as urban sprawl, puts pressure on agricultural land and agricultural land values and is an inefficient form of growth. The Growth Plan addresses the issues of urban and rural sprawl, requiring increased densities in urban areas and directing growth to specific areas. As an example, growth in rural municipalities are to be directed to designated growth hamlets and other hamlets to reduce rural sprawl. In the case of urban municipalities, policies require the Region’s urban centres to grow up, before they grow out.

Development of non-agricultural land uses in rural areas has also created pressure on agricultural land. The result has been that some large crop operations have been forced to expand on farmland outside the Region. The report also noted that the number of confined feeding operations, notably cattle and hogs, has declined significantly. Intensive and specialized agriculture operations, such as market gardens and nurseries, have also declined.

The municipal and Board reports also gave voice to agricultural producers, who expressed the view that municipalities have tended to focus on residential, commercial and industrial growth in recent years at the expense of agriculture and have not provided enough support for agricultural producers and their agricultural operations.

The Master Plan has been prepared to address these concerns and more, through the development of a consistent policy approach agricultural land use planning and to take the Region in a new direction on agriculture.

Agriculture represents a significant opportunity for the Region. Some of the best and most productive agricultural lands are located in the Region. This creates a significant locational and competitive advantage for the Region to optimize the use of the agricultural land base to increase the growth of agriculture and to grow the regional economy. As noted above, the agricultural land base has been under pressure. Moreover, the soils in the agricultural land base are a non-renewable resource. Once gone, they cannot be replaced. This fact alone underscores the importance and the urgency of completing and implementing the Master Plan to conserve the prime agricultural lands of the agricultural land base.

The Master Plan is also an opportunity to understand the agricultural system in the Region and to recognize it is a complex system of interrelationships and interdependencies that starts with agricultural producers, and includes input suppliers, value-added producers, exporters, consumers, politicians, bureaucrats and many others inside and outside the Region. Therefore, will require broad engagement and support to ensure the Master Plan is successful in creating the conditions for a sustainable, resilient agricultural sector in its broadest form.

Agriculture has been prominent in the history of the Region for well over a century. In the first half of the twentieth century, processing of agricultural products, particularly meat packing, was a major part of the regional economy and supported the Region’s growth. Agriculture has been a major part of the regional economy ever since and is now poised to make a larger contribution to the regional economy than ever before.

The EMRB will need partnerships with other orders of government and a range of stakeholders including but not limited to agricultural producers, Edmonton Global and post-secondary education and research institutions to implement the Master Plan and to grow the regional economy.
# Overarching Policies

| Importance of Agriculture | - EMRB and member municipalities are champions for agriculture.  
|                         | - Minimize conflicts between non-agricultural uses and agriculture.  
|                         | - Think of agriculture within the context of the “Regional Food System”.  
| Environmental Stewardship / Climate Change | - Prime agricultural lands are to be protected.  
|                                                 | - Soils are a non-renewable resource that should be protected and managed.  
|                                                 | - EMRB and member municipalities will create a Regional Soil Conservation Management Plan.  
|                                                 | - EMRB will monitor, analyze, and report on impacts of climate change.  
| Infrastructure | - RAMP to inform and be integrated with Integrated Regional Transportation Master Plan (IRTMP) and Metropolitan Region Servicing Plan (MRSP) to support agriculture.  
|                                                 | - Transportation infrastructure (over-dimensional corridors, truck routes, etc.) will support the agricultural industry through efficient movement of equipment and goods.  
|                                                 | - Collaborate with organizations such as Alberta Transportation, utilities providers, telecommunications providers, CN/CP, and EIA to support the agricultural industry.  
|                                                 | - Recognition of broadband infrastructure’s critical role in supporting value-added agriculture, innovation, smart agriculture, and the future of agriculture.  
| Value-Added Agriculture | - Value-added agriculture is promoted in all four Policy Areas.  
|                                                 | - Value-added agricultural operations will utilize products from the Region and/or produce products to enhance the Region’s economy.  
|                                                 | - EMRB and member municipalities will collaborate with Alberta Agriculture and Forestry, Edmonton Global and post-secondary institutions to grow the value-added agricultural sector.  
|                                                 | - Upon completion of RAMP, EMRB will consider creating a mechanism to grow the Region’s agricultural economy, elevating the importance of agriculture to the Region.  
| Education and Awareness | - Education and awareness to inform the public of RAMP objectives - importance of agriculture and industry.  
|                                                 | - Education and awareness will be aligned and tailored to unique considerations of each of the four policy areas.  
|                                                 | - RAMP will raise awareness about local food security by connecting local producers with local consumers.  

Policy Areas Context

The Master Plan approach recognizes agriculture as a significant contributor to this region’s past, present and future and its contribution to the economic, social, environmental, cultural and historical fabric of the Region.

To respond to this opportunity, the Master Plan acknowledges agriculture can and should occur in all parts of the Region. The Master Plan proposes to identify specific areas where agriculture lands should remain a priority and aligns policies throughout the Region to encourage all types of agriculture to continue for as long as possible.

The proposed policy area framework for RAMP does not create an agriculture boundary. Instead, it identifies specific agriculture policy areas differentiated by existing conditions and current land uses, and accounts for future urban growth plans for the next 25-50 years based on approved statutory plans.

The proposed RAMP policy framework is adaptable and responsive to future growth demands and does not limit or interfere with existing approval processes or the long-term planning needs of urban municipalities. This approach provides certainty for agriculture and land development for the next 25-50 years. The Growth Plan remains fully in effect at this time. When the RAMP policy framework is approved and integrated into the Growth Plan by amendment, the Growth Plan will continue to remain in effect.

At the October 28, 2019 meeting of the Task Force, members endorsed the following draft policy direction:

- Policy Area 1: Rural Agriculture
- Policy Area 2: Rural Agriculture Complementary to Other Uses
- Policy Area 3: Agriculture within Future Transition Lands
- Policy Area 4: Urban Agriculture

The Agriculture Policy Areas Map

This approach is consistent with Growth Plan Policy Tiers within the Edmonton Metropolitan Regional Structure to 2044, with the addition of a refined focus on agriculture.

The four Policy Areas comprise the total area of land under the EMRB. The approximate size of each Policy Area is shown below.

- Policy Area 1: 63%
- Policy Area 2: 22%
- Policy Area 3: 7%
- Policy Area 4: 8%

This continues to be a work in progress, with further refinements expected following stakeholder engagement.
POLICY AREA 1 – RURAL AGRICULTURE

This is the largest policy area that includes much of the Region’s diverse agricultural lands. Large areas of prime agricultural land are suited to large-scale agriculture producing a range of field crops. Extensive areas of non-prime agricultural land support mixed agricultural operations, grazing and pasture, and cow-calf operations. Other areas support smaller-scale, more intensive agricultural operations.

The Growth Plan defines prime agricultural lands and commits to identifying and conserving an adequate supply of these lands. While the productive capacity of agricultural lands in the Region may vary considerably, all agricultural lands, whether they are “prime” or not, have capability for different types of agriculture. All agricultural lands have value.

Agriculture is the priority land use in this Policy Area, which is designed to minimize fragmentation and conversion of agricultural land for non-agricultural uses, and to reduce the risk of conflict between agriculture and non-agricultural uses (in this regard, the EMRB and member municipalities acknowledge the importance of AOPA [the Agricultural Operation Practices Act] to agricultural producers in the Region). To ensure the future success of agriculture in this Policy Area, ensuring the necessary infrastructure that is needed is in place to support growth and diversification of the agriculture sector.

All of these measures are designed to support agricultural producers by providing certainty in knowing that they farm in an area where agriculture is the priority land use, and where agricultural operations can operate under a known set of rules. This also supports certainty of tenure, knowing that agricultural operations can operate under said rules for the foreseeable future.

These measures support key objectives of the Growth Plan. Security of tenure means agricultural producers can invest in their lands for the long term to ensure the wise management of prime agricultural resources. This will secure a supply of agricultural lands to provide a local food source for future generations and provide a foundation for the agriculture industry to grow and increase the size of the regional economy.

These measures will also strengthen the Region’s agricultural system, including the service providers, suppliers, and the communities and community facilities that support the agriculture industry. A stable agriculture industry will support the economic and social viability of agricultural communities, and maintain the character, heritage, and sense of place that the communities are known for.

Finally, the importance of Policy Area 1 to the Master Plan must be emphasized. It is within Policy Area 1 that the agriculture goals of the Growth Plan and of the Master Plan will be most fully realized. Policy Areas 2, 3 and 4 are, in different ways, “compromised”. In these Policy Areas agriculture cannot be the priority land use - other land uses have priority over agriculture or co-exist with agriculture.

Policy Area 1 contains approximately 63% of the land base of the Region. This fractional amount includes the best, most accessible and most intact tracts of agricultural land in the Region and does not include CFOs. This agricultural land, and the valuable non-renewable resource (i.e., soil) on which it is based, must be conserved to realize the potential for agriculture to grow the regional economy. The importance of Policy Area 1 cannot be over-stated. Policy Area 1 policies have been written accordingly.
POLICY AREA 2 – AGRICULTURE COMPLEMENTARY TO OTHER USES

This policy area includes large tracts of co-existing agricultural and non-agricultural land uses as shown on the map for Policy Area 2 below. All the co-existing land uses shown include existing, productive agricultural land within the areas designated for the other uses.

Some co-existing uses may eventually consume the agricultural land. There may be opportunities to reclaim lands from a co-existing use and return them to agriculture. The nature of the co-existing uses varies and, therefore, the relationships between the existing agricultural lands in production, and the co-existing uses, also varies.

This Policy Area strives for a balanced approach - agricultural lands are kept in production for as long as possible, and lands are reclaimed for agriculture where possible, without impeding the expansion of other co-existing land uses.

Co-existing uses are:
- Country Residential
- Lakeshore Communities
- Designated Natural Areas
- Resource Extraction
- Confined Feeding Operations (CFOs)
- Employment Area
Some of the best agricultural lands in Alberta are located in this Policy Area. The deep, rich topsoil found within this Policy Area was the natural resource that drew settlers to this area more than a century ago to farm the land and to begin the development of the agriculture industry in the Region.

This Policy Area includes large areas of agricultural land. It also includes lands for future urban expansion. The Policy Area, therefore, balances the equally important objectives of maintaining prime agricultural lands in production for as long as possible, ensuring there will be land base for future urban expansion.

It is important to emphasize, as the Growth Plan does, that this Policy Area reflects the “general” direction of future urban growth. The rate of future urban growth will depend on the growth of the regional economy in a provincial, national and international context. Future urban growth is not likely to be uniformly consistent in all directions and it is not anticipated that all of the agricultural land in this Policy Area will be urbanized by 2044. Therefore, there is an obligation on the Region to protect a non-renewable resource and to stage development to ensure that the productivity of the agricultural land in this Policy Area is maintained for as long as possible.

It is not practical to carry over the policy direction from Policy Area 1, where agriculture is the priority land use, to this Policy Area. This simply isn’t feasible when urban expansion is a reality – at some point. However, it is reasonable to carry over the spirit of Policy Area 1 to this Policy Area to ensure that agricultural lands remain in agricultural production, and that land use proposals remain in service to agriculture, and where possible limit fragmentation until the lands are needed to support growth.

**Goal**

The agricultural land base near and within urban boundaries continues to be productive and managed under principles of good land and environmental stewardship.

**Value-Added Agriculture**

- Value-added agricultural use proposals are supported in this policy area, subject to criteria. When criteria are not met, will be directed to urban centres, major, or local employment areas.

**Future Transition Lands**

- Agricultural production will continue until the lands are required for urban growth.
- Maintain local infrastructure at a rural service level to enable agricultural operations.
- Encourage all municipalities to manage existing agricultural lands and identify lands that may remain in production for medium to long term.
- Subdivision limited for the benefit of agriculture and future development.
- Growth directed to non-prime lands where possible but contiguous development, efficient use and extension of existing infrastructure prevails.
- Land use proposals on existing agriculture lands subject to criteria.
- Monitor, record, and analyze land use changes, forecasted demand for agriculture and urban development as a Region.
Urban agriculture has the potential to benefit the Edmonton Metropolitan Region in support of economic, environmental social goals by:

- Increasing public awareness of agriculture through accessible and visible types of urban agriculture,
- Increasing community activity in support of urban agriculture,
- Increasing production of local food, and reducing dependency on food imports, and
- Growing the agriculture economy through value-added forms of agricultural processing, and diversifying, innovating and intensifying existing types of agriculture.

Urban agriculture is, therefore, an opportunity not to be missed and one of great potential for the Region.

Moreover, urban areas provide specific opportunities that benefit agriculture. Some forms of urban agriculture, such as food processing plants, may need water and sewer services that are only available in urban areas. This type of use may also generate noise or odour impacts, making such a plant best suited to fully serviced industrial areas. At the other end of the spectrum, a large education and research institution like the University of Alberta, that has a presence in agricultural research, can only exist in a major urban centre like Edmonton. The university also benefits from having the resources to own and operate significant landholdings outside the City of Edmonton on which to conduct agricultural research.

Urban agriculture also has the potential to become not only integrated but also a more visible asset with the agricultural system in the region. Increased interactions between all producers and participants in agriculture, rural and urban, will strengthen the regional agricultural economy.

**Goal**

Urban agriculture is established and thriving in EMRB member municipalities and exists in ways that fit the characteristics of each municipality. Urban agriculture is supported by engaged communities that support a wide range of agricultural activities, public and private, and involve residents, businesses, communities and organizations.

**Value-Added Agriculture**

- Support value-added agriculture uses.

- Urban municipalities and rural municipalities with an identified urban centre will create an Urban Agriculture Plan.
- Urban Agriculture Master Plans may prepare for hamlets, growth hamlets and employment areas
- Value-added agriculture supported.
OFA opposes residential severances on prime ag land

Director, Ontario Federation of Agriculture

Land use planning and the policies governing it are of keen interest to the Ontario Federation of Agriculture (OFA) and our farming members – primarily from the perspective of preserving productive agricultural land for its broadest uses.

Municipal land use in Ontario is guided by the Provincial Policy Statement (PPS), first adopted in 1996/1997 and most recently updated in 2019. Municipalities use the PPS as the minimum standard on land use policies, including lot creation policies. Municipalities cannot establish local land use planning policies that are less restrictive than in the PPS or one of the ‘space-based’ land use plans. Land use policies in some areas of the province are also guided by ‘space-based’ land use plans, including the Greenbelt Plan, the Oak Ridges Moraine Conservation Plan, the Growth Plan for the Greater Golden Horseshoe, the Niagara Escarpment Plan and the Growth Plan for Northern Ontario.

Rural severances were once common practice in municipalities across rural Ontario when lots were severed for residential use, farm retirement lots or to create a surplus residence for a farm operation. Today, after several changes to the PPS, with the exception of residence surplus to a farming operation, the creation of new non-farm residential lots in prime agricultural areas is not permitted.
OFA supports this land use policy and opposes residential lot creation in prime agricultural areas. OFA developed a Consolidated Agricultural Land Use Policy Statement in 2001, combining provincial land use planning-related policies, statements and submissions. In this statement, OFA clearly opposed non-farm lot creation in prime agricultural areas – a position we continue to hold today.

OFA’s position is based on solid rationale and not just the loss of productive agricultural land. A variety of studies – including OFA’s Cost of Community Services case study – found that scattered rural residential development actually cost more for municipalities to provide services for than the property tax revenue received. There are also Minimum Distance Separation (MDS) consequences when non-farming developments occur in agricultural areas. For example, a one-acre, non-farming lot in a prime agricultural area effectively sterilizes the surrounding 250 acres from hosting a new livestock barn or manure storage facility. It may also limit the expansion of an existing livestock or poultry farm within that 250-acre area.

Data from the Ontario Ministry of Agriculture, Food and Rural Affairs in the 1990s indicated that farm retirement lots only stayed in the hands of the retired farmer for approximately two to three years before they were sold, often to non-farmers. Conflict can then arise when residents who are unfamiliar with the realities of farming and farm practices move to rural areas. While the Farming and Food Production Protection Act helps farmers manage nuisance complaints about odours, dusts, noises, etc., farmers must still manage complaints from neighbours and defend their farm practices.

Severing agricultural land for non-farm residential or commercial building lots removes farmland from production forever. The ongoing loss of prime agricultural land in Ontario can’t be ignored. Census data from 1996 to 2016 shows a steady decline in farmland area – from 13.8 million acres to 12.3 million acres over this 20-year period. Today, Ontario’s farmland represents less than 5 percent of the province’s overall land area.

Living in Ontario’s rural countryside is a privilege. As farmers, we appreciate the open spaces, fresh air and stunning landscapes that rural living offers. The reality is, if we are to preserve these agricultural lands for future farms and food production, and responsibly manage population growth and urban expansion, we can’t permit rural lot severances in Ontario. It’s in everyone’s best interest to preserve our land.

https://nationvalleynews.com/2020/02/14/ofa-opposes-residential-severances-prime-ag-land/