

The Economic Imperative for RAMP

In December 2019, the Board of EMRB received a presentation from the Regional Agriculture Master Plan (RAMP) Task Force highlighting the global economic imperative for agriculture. The following is a summary of the presentation prepared by Toma and Bouma Management Consultants.



The Global Economic Imperative for Agriculture

Simply, the demand for food will only continue to grow. In the global context, there are two key points to consider, global demand will grow based on sheer population 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 global output of food is required.

Indeed, growth pressures to reduce inputs such as nitrogen, phosphorus, and potassium, including pesticides, the number of passes made over fields, the move to minimum/zero till will all 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 desertification, erosion, flooding
- changes in water supplies

To respond to this complex challenge, the Region must look at its Total Factor Productivity (TFP), which is a ratio that measures changes in how efficiently agricultural inputs (land, labor, fertilizer, feed, machinery and livestock) are transformed into outputs. TFP rises when producers use technologies and production practices that result in more output from existing resources.

TOTAL FACTOR PRODUCTIVITY (TFP)

TFP increases
when outputs rise



while inputs remain constant



Source:
globalagriculturalproductivity.org/data-resources



The EMR Economic Imperative for Agriculture

The Regional Agriculture Master Plan (RAMP) Situation Analysis identifies Canada as one of only six countries who will be net food exporters by 2025 – Alberta and the Edmonton Metropolitan Region (EMR) are well positioned to respond to this growing demand. 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.

This puts the EMRB in an inherent competitive position both globally and within Canada.



Future of Agricultural Land Base

Data gathered from the Alberta Ministry of Agriculture and Forestry (2018) shows that large parcels (80-240 acres) declined by 307 in a 5-year period, while parcels between 10-80 acres increased by 738, and small parcels (less than 10 acres) increased by 2,653. Further, conversion and fragmentation of agricultural land are a problem that continue to exist and contribute to the EMRB losing agricultural land. The Alberta Land Institute reported (2016) that the EMR is losing land at twice the rate of the Calgary region despite the same population growth. EMR is losing approximately 12,000 acres of farmland each year since 2001.

Consultations with farmers during recent municipal agriculture plans (2014-2017), indicated that fragmentation and conversion are foremost issues. This results in fewer large parcels to farm and more conflicts from non-farm rural residents.

Looking at this current trend line, and *without* any action from the EMR, there is a projected loss of 600,000 acres of agricultural land between 2016 and 2046 (based on Statistics Canada data on an analogous case in the Greater Toronto Area). This would mean agricultural land base would decrease to 1.5 million acres in 2031; then an inflection point and drop off to 900,000 acres by 2046 (a rate of 40,000 acres per year). This is 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.

With the implementation of a Regional Agriculture Master Plan (RAMP), there is projected to be 1.579 million acres of agricultural land in 2046. This would represent a projected loss of 100,000 acres of agricultural land between 2016 and 2046.



Economic Output Projections

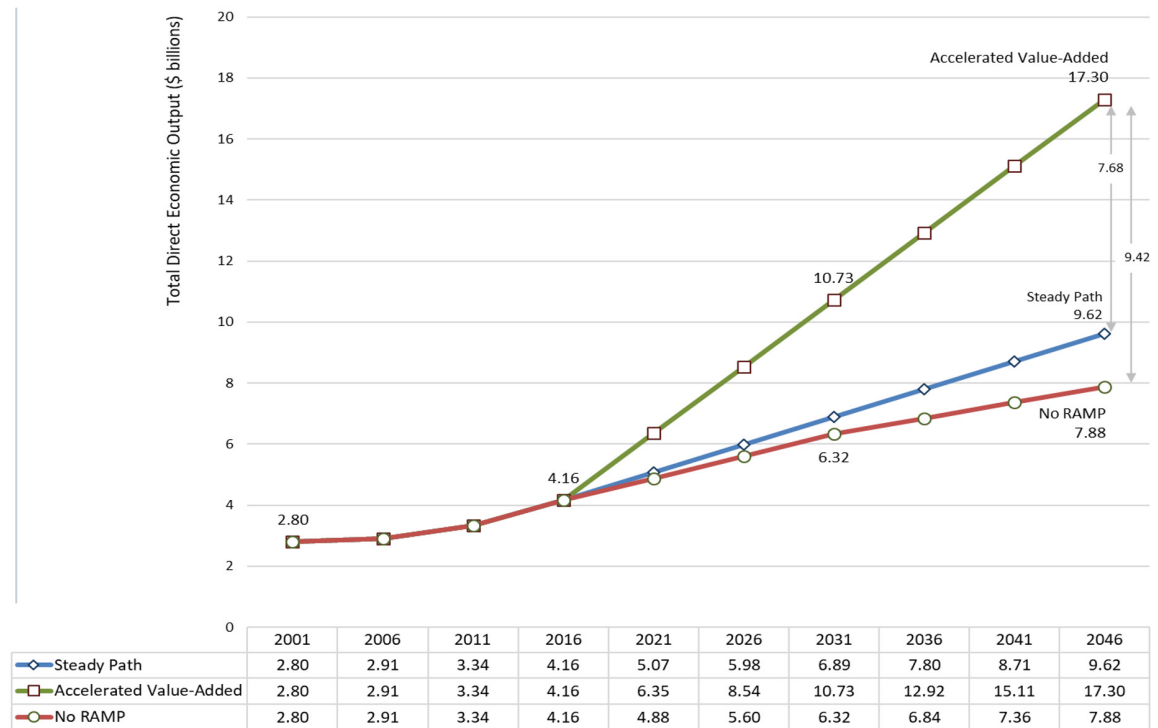
Three scenarios were studied to compare the projected economic output for agriculture in the Region by 2046.

1. Steady Path (with RAMP) – 100,000 acres of land has been absorbed; everything proceeds as per current trends.
2. Status Quo (no RAMP) – lose another 600,000 acres of agricultural land; no other changes.
3. Accelerated Value Added (with RAMP) – predicated on a change in value added creation; moving from a 1:1 ratio (this is a historical ratio) to a 2:1 ratio.

Should we succeed with scenario three, accelerated value added, the results are significant.

Total Direct Economic Output (Farm Sales and Value of F&B)

Direct Economic Output, or Total Direct Economic Output is the combination of two key measures: 1. Gross Farm Sales and 2. Value (\$) Food and Beverage Shipments.



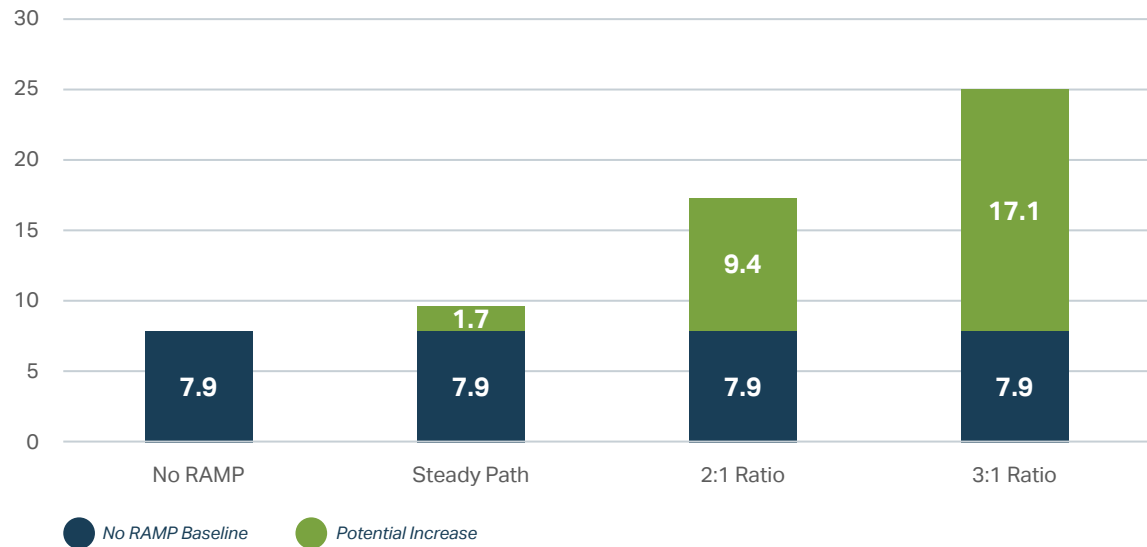
Methodology: Assumes that 25% of the total Alberta Value of Food & Beverage Shipments comes from the EMR. Statistics Canada (Census of Agriculture – 2016): Gross Farm Sales = \$838,221 • Value (\$) Food and Beverage Shipments = \$3,320,525 • Total = \$4.16 Billion (approximately)

Extrapolations for 2021 to 2014 for Steady Path and Status Quo 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 assumed for Steady Path. Note: the current ratio between food & beverage to farm sales in the province is 1:1 and is 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.



Increase in Total Direct Economic Output Farm Sales and Value of F&B (\$ Billions) by 2046

The accelerated value added scenario has the potential to increase the total direct economic output to over \$17 billion by 2046, over \$9 billion more than with no RAMP, and over \$7 billion more than the steady path scenario – emphasizing the imperative to increase value-added agricultural production. This increases to \$25 billion if a ratio of 3:1 is achieved.



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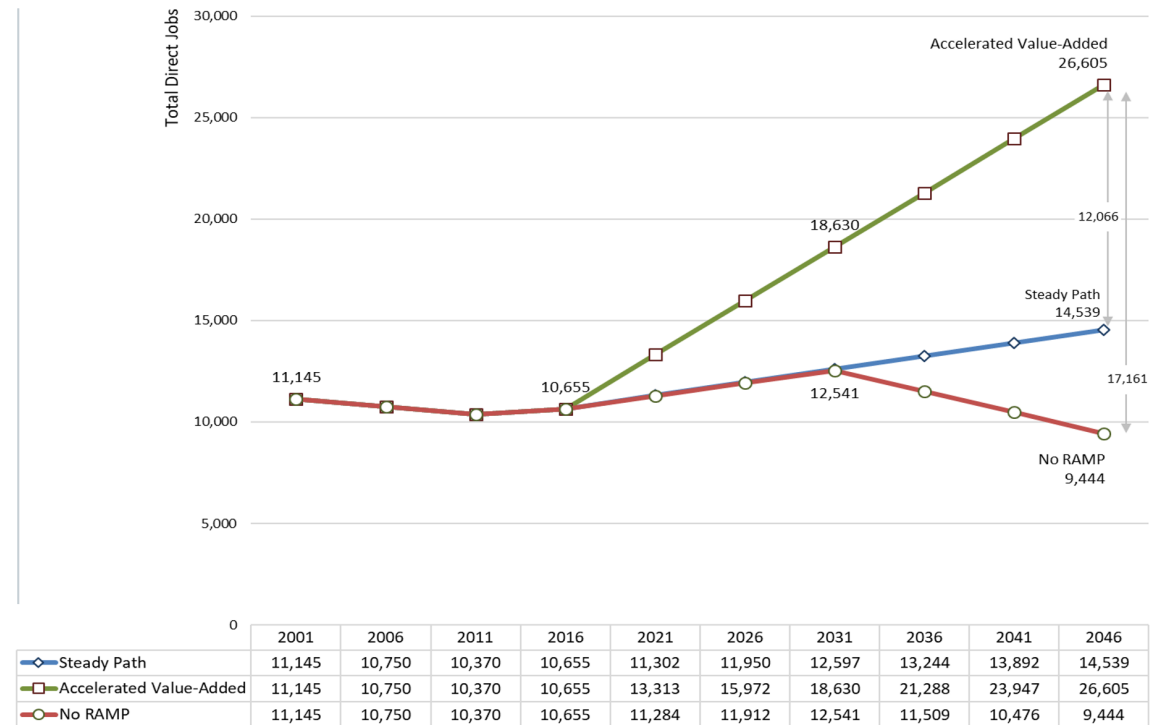


Jobs Projections

There is a potential for a loss of jobs in the status quo scenario mostly due to the loss of farm production jobs.

The projections for jobs suggest that not only is value-added agriculture critical, but so is conserving agricultural land for production. In the accelerated value added scenario, there is a projected 26,000 jobs by 2046 (farm operator and processing), which is over 12,000 more than is projected in the steady path (with RAMP) scenario, and over 17,000 more than with status quo/ no RAMP scenario. This increases to over 38,000 jobs if a ratio of 3:1 ratio is achieved between food & beverage to farm sales in the province.

Total Direct Jobs (Farm Operator & Processing Employees)



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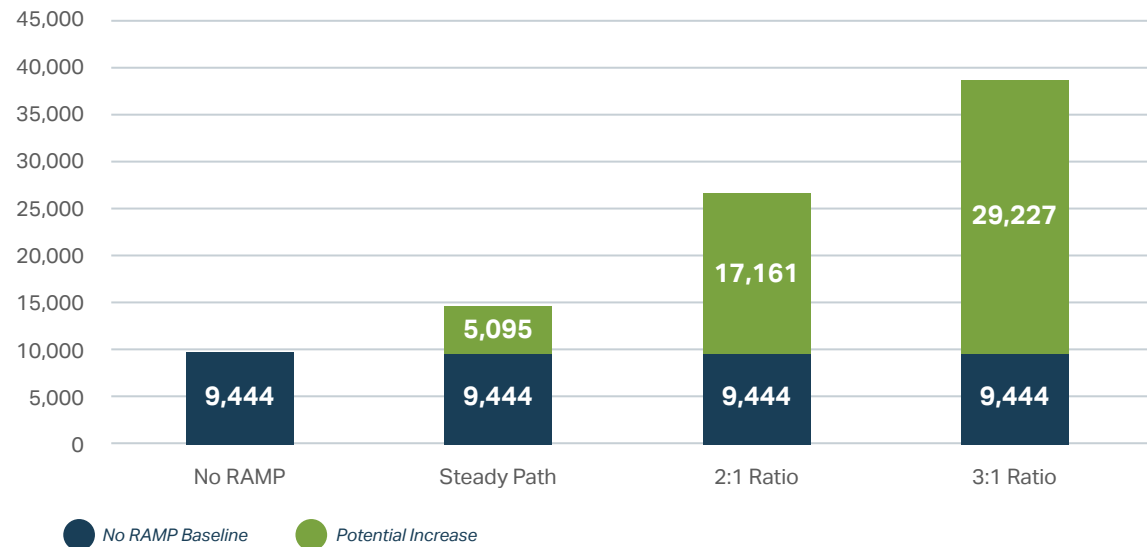
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Findings

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.

1. A modest increase in value-added creation (2:1) can equate to substantive increases in jobs and economic output.
2. Opportunity costs of inaction will 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.



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THE ECONOMIC IMPERATIVE FOR RAMP

Sometimes it is better to express opportunities in terms of units or consumables that we can understand. A recent study from Leduc County showed that one acre per land retained in agriculture can result in the net production of:

 sufficient fresh vegetables for 270 people

 540L canola oil

 348lb of beef

 9,920 loaves of bread

 25,355 bottles of beer

If the EMRB positions agriculture as a major economic driver, we can create the conditions to:

- increase economic outputs and employment.
- attract new innovations, investments, and partnerships on the national & international stage.

EMR has several competitive advantages:

- some of the most productive soils in Western Canada.
- a vast array of assets and institutions for research, development, commercialization, logistics, education, and infrastructure.
- an emerging class of entrepreneurs in agri-tech and food business industries.
- technological advances in artificial intelligence and genomics.

WHAT CAN RAMP ACCOMPLISH?

Increased GDP

Job Creation

Increased Innovation

Global Leadership