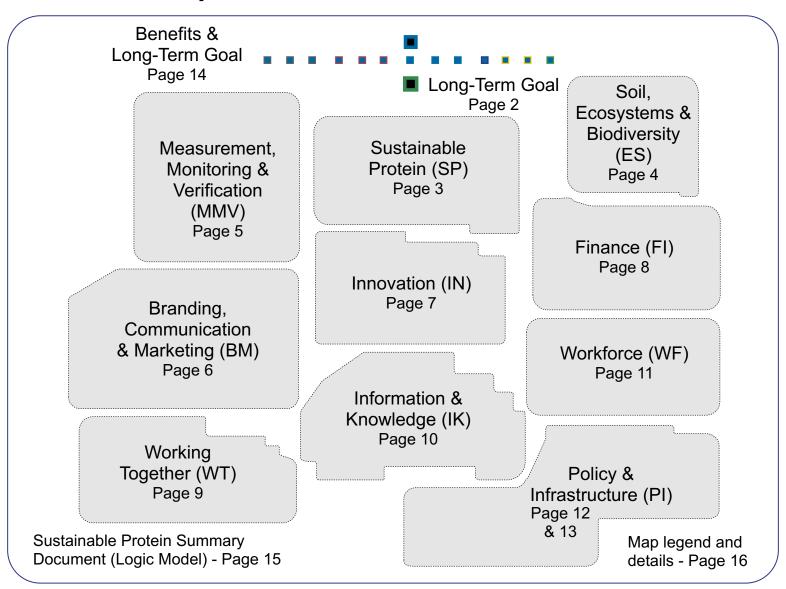
Sustainable Protein Impact Map: A Collaborative Action Framework

Accelerating Innovation to Realize Manitoba's Impact Potential

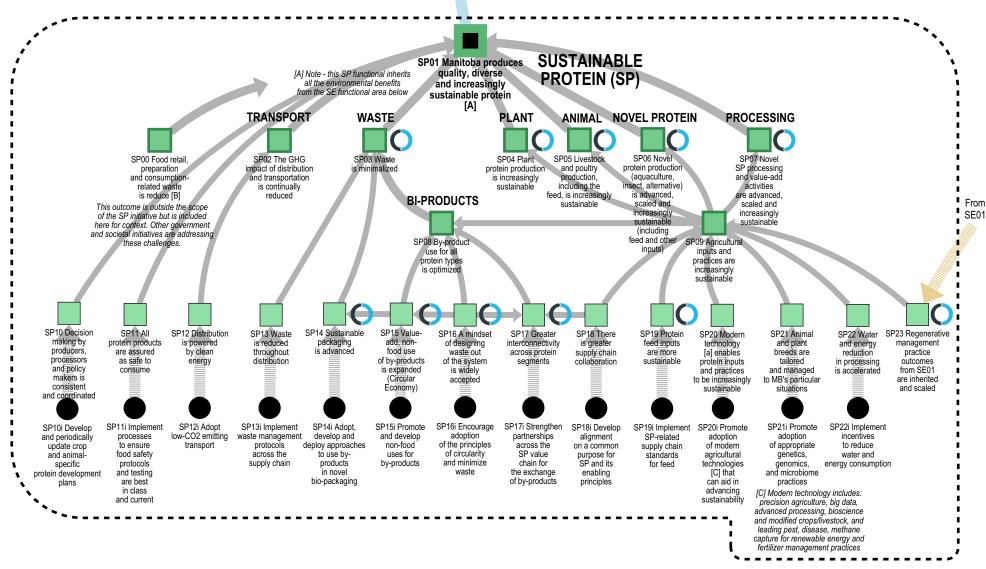
Compendium of Functional Areas



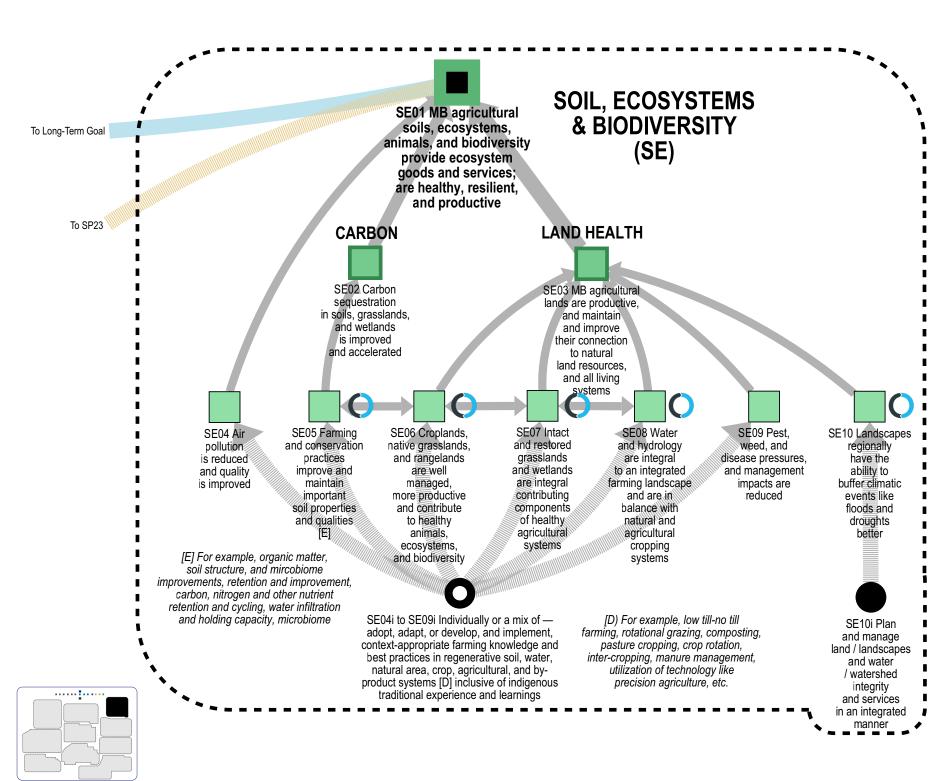
LONG-TERM GOAL

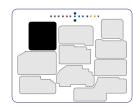


LTG01 Through strengthened collaboration and accelerated innovation, Manitoba realizes its collective and equitable potential to produce protein that is diverse, high quality, healthy and increasingly sustainable









appropriate)

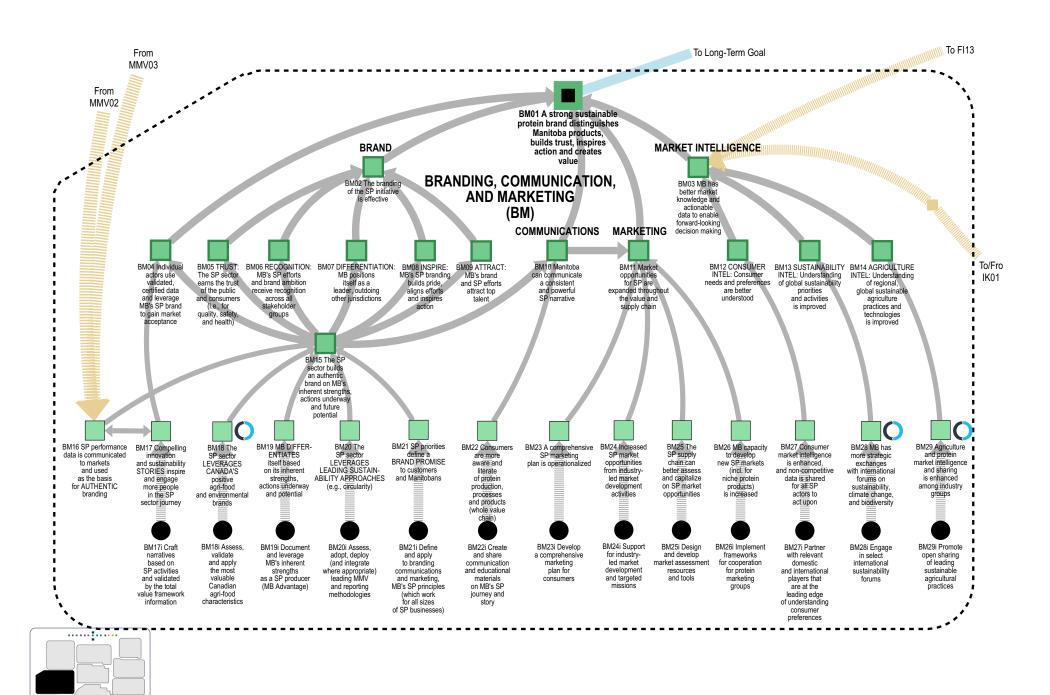
leading MMV

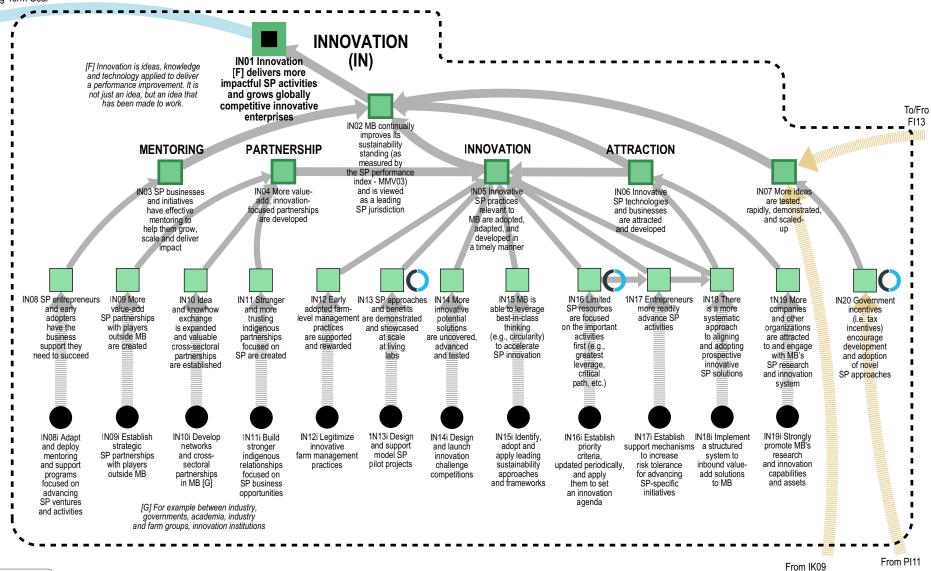
and reporting

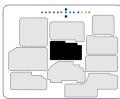
MMV protocols (e.g., Indigenous

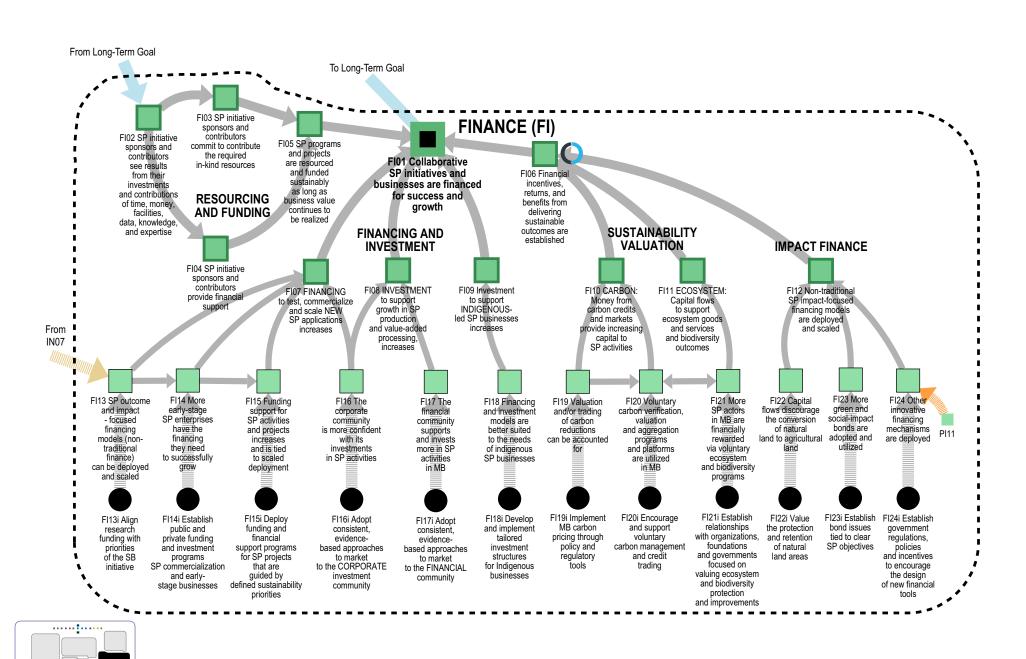
production

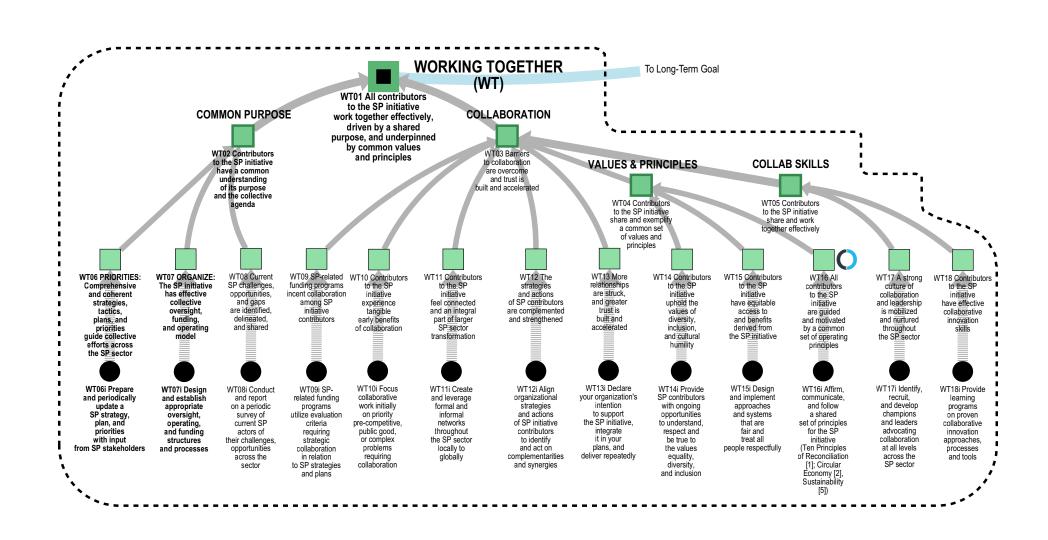
certification)



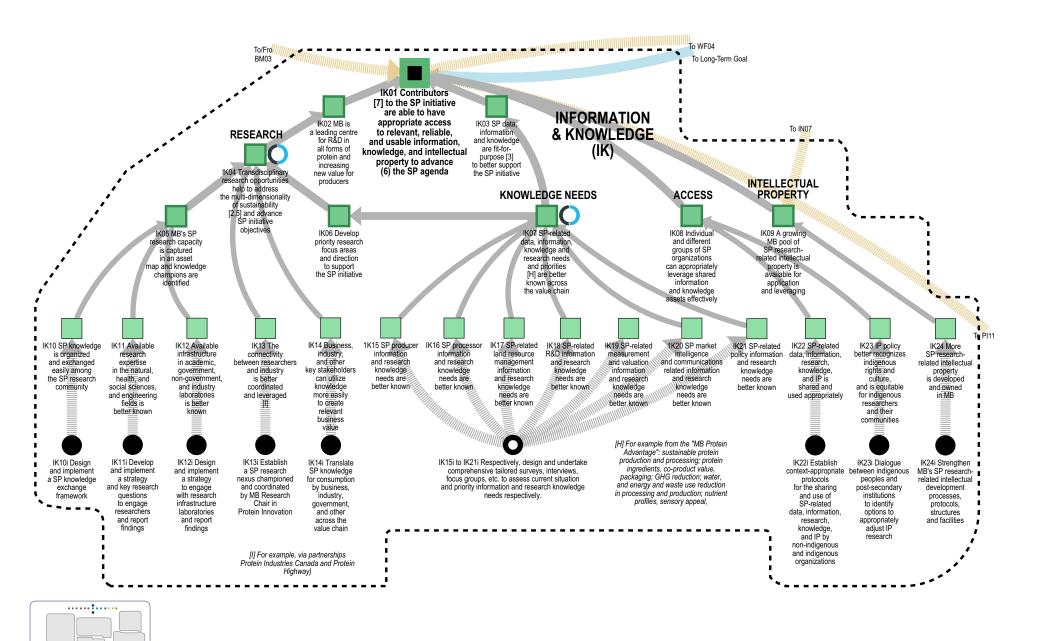




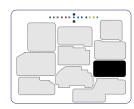






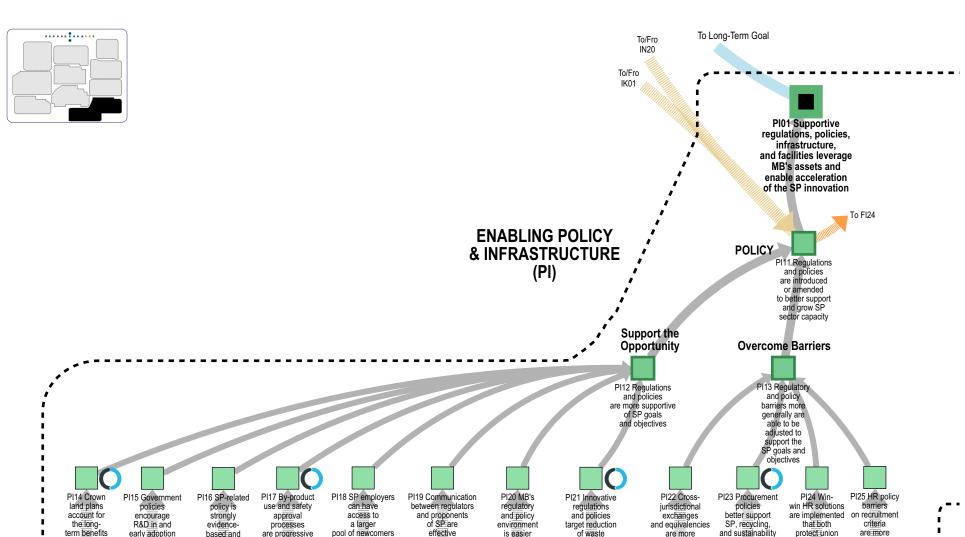


To Long-Term Goal **WORKFORCE (WF)** WF01 A sustainable workforce with the knowhow work together **SP LEARNING** SP WORKFORCE to support and accelerate & PRACTICE innovation across WF02 The SP WF03 A sustainable the SP sector supply of qualified workforce has relevant and and talented people retained progressive knowhow to and attracted support and to lead, support, and grow the SP sector From accelerate collaborative IK01 innovation WF09 Learning WF10 Indigenous WF05 SP learners WF06 SP continuous WF07 SP learners WF08 SP best WF11 The WF12 Indigenous WF13 More WF14 The WF15 Employees WF16 The WF04 Agriculture SP workforce education are able education, gain handspractices programs knowledge SP initiative community next generation and leaners SP sector are responsive to better feels a part matches people programs up-skill, on experience are developed, is included, embraces cohorts have entrepreneurs. understand reflect SP address complex and extension applying updated. to current as appropriate, diversity, the knowhow innovators, of and inspired and feel with the their classroom and future demands and in SP learning by the global right jobs, objectives programs shared, and inclusivity, to create. and leaders a part of and latest rapid constant are developed knowledge adopted earlier needs of programs equitability grow, and chose and sustainability an exciting and jobs the SP sector progressive SP story change with and enhanced in real world with its sustain Indigenous help drive with the across the cause research, technology, their learning SP work settings sector and labour workforce SP businesses the SP sector right people and innovation force and learning and work in their better, more advancements systems community quickly, and less expensively WF04i Update WF05i Provide WF06i Design WF07i Design WF08i Establish WF09i Develop WF10i Design. WF11i Design WF12i Design WF13i Create WF14i Reinforce WF15i Craft WF16i Develop agriculture SP learners and offer and implement and support an industrydevelop, and implement and implement mechanisms the sustainability and market and deploy or update led labour and implement equitable learning to attract. principles compelling and food SP-oriented with 21st a steward rapidly, [5], and education Century competency Continuous and enhance for SP best force SP new innovative learning programs develop, narratives and iteratively UN Sustainable learning co-operative. for small that SP sector Professional practices education learning and work and retain development improve a direct experienceprograms learning Development and HR development models led opportunity indigenous learners, Development employees minimum viable to include course curricula based SP and owned community [8] and Circular opportunities strategy approaches and young and learners core competency latest SP [4] through professional learning and plan by indigenous for indigenous cohorts centred Economy goals product for professionals see themselves [12] with the SP workforce developments association programs peoples founded around SP the SP sector peoples, on OCAP principles channels genders, business [9] opportunities



newcomers, and people with disabilities To Long-Term Goal **INFRASTRUCTURE** PI01 Supportive **ENABLING POLICY** regulations, policies, PI02 MB infrastructure infrastructure. & INFRASTRUCTURE and facility and facilities leverage assets are (PI) well-leveraged MB's assets and maintained, enable acceleration and/or expanded of the SP innovation to support and grow SP capacity_ **POLICY** PI03 NEEDS: PI04 R&D: PI08 CLEAN PI09 WATER: PI05 CLEAN PI06 ENERGY PI07 WASTE PI10 ICT: SP-related Leading edge ENERGY: The INFRASTRUCTURE: Necessary ENERGY: The Necessary Necessary infrastructure research current and Necessary waste and current and water and information future renewable development and innovation energy and recycling future renewable related services and communication are available needs are infrastructure, and alternative related services facilities and alternative technology better known, facilities, energy needs are available and services energy needs to support infrastructure can be accommodated are available can be accommodated SP supply and opportunities and equipment to support and related are ready supports appropriately current and to support appropriately chain needs services to be acted MB's SP initiative future the current and are available on ("shovel-SP supply future the to support ready") chain needs SP supply needs of chain needs the SP supply Pl03i Develop PI04i Invest PI05i Assess PI06i Assess PI07i Assess PI08i Assess PI09i Assess PI10i Assess an infrastructure in R&D and and communicate and communicate and communicate and communicate and communicate and communicate gap analysis, commercialization current and current and current and current and current and current and strategy future energy future waste future transportation infrastructure future renewable future water future Internet and recycling and distribution and related and business (e.g., equipment, and alternative needs, including needs, including lab, testing needs, including needs, including operating service needs, case across energy needs, operating operating operating costs. of including the SP supply and scaleincluding costs, of chain periodically up facilities) operating the SP supply costs, of costs, of the SP supply operating costs, and chain periodically the SP supply the SP supply chain periodically costs, of the SP supply chain periodically plans of chain periodically the SP supply chain periodically chain periodically







PI14i Undertake spatiallyexplicit landscape and farm level analyses to valorize ecosystem goods and services periodically

early adoption of novel SP approaches

PI15i Align and implement business incentive programs for novel

based and trustworthy

> PI16i Direct PI17i Engage and inform in forward-SP-related looking policy policy with dialogues well-designed and advocate obiective for by-product SP R&D use and safety (e.g., for livestock

> > feeding)

PI18i Engage in a dialogue and advocate for more flexible immigration policies supportive of SP human resources needs

to choose

from

effective

for SP-related

PI20i Review PI19i Work with regulators and streamline early on in the idea and concept and policies development process

> [I] For example on-farm manure use and recycling, sustainable packaging)

to navigate

businesses

SP-related

regulations

Pl21i Engage in dialogue and advocate for better policies

supportive of waste reduction, reuse, and recycling systems [1]

and sustainability goals generally

PI22i Initiate a dialogue

efficient

and less

costly

toward better

harmonization

of cross-

jurisdictional

regulations

and standards

Pl23i Engage in policy dialogues to explore how procurement might support or help drive the SP agenda

PI24i Initiate a collaborative dialogue between SP managers and unions

to innovation

jobs while

also enabling

innovation

PI25i Explore and pilot the use of a core competency equivalency frameworks to explore any potential barriers

flexible



BE01 Manitoba proudly leads Canada and the world as an innovative model for high-value sustainable protein that nurtures and benefits all people, the local environment, and the climate

Penultimate Benefits



protein supplier

of choice

BE03 Public knowledge of and trust in the agriculture and food sector is greater

The Manitoba Brand —

BE04 MB contributes to UN Sustainable Development Goals

BE05 MB is globally competitive and secures new customers

and markets

BE06 MB's economy BE07 MB attracts grows with increased profitability, new business creation, and increased highvalue direct

and indirect

jobs

Economic



Social BE08 MB communities BE09 MB's agriculture BE10 Reconciliation and food workplace are more resilient and vibrant

with Indigenous is safe and Peoples is healthier for advanced employees

Consumers

BE11 Consumers benefit from having a trusted and healthy food producer

Climate Change Mitigation / Adaptation



BE12 GHG emissions are reduced and carbon sequestration is maximized



BE13 MB is better able to withstand water-related climate change impacts

Local Environment

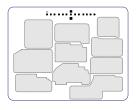


BE14 The local environment is strengthened with enhanced ecosystem services. improved biodiversity. improved water quality, and reduced waste

LONG-TERM GOAL



LTG01 Through strengthened collaboration and accelerated innovation, Manitoba realizes its collective and equitable potential to produce protein that is diverse, high quality, healthy and increasingly sustainable



A COLLABORATIVE ACTION FRAMEWORK



Ultimate Benefit	ba's Impact Potential		Manitoba proudly leads Canada and the world as an innovative model for high-value sustainable protein that nurtures and benefits all people, the local environment, and the climate					ogress on the sustainable protein goal will): Economy Consumers Consumers bandit from and secures new castomers having a trusted and healthy and markets food producer	Sa sa	Maritoba's communities are increased and vibrant connected vibrant con
Penultimate Benefits	Accelerating Innovation to Realize Manitoba's Impact Potential			See details below* The Manitoba Brand Economic	Social Consumers Climate Change	Mitigation / Adaptation Local Environment	(BE02 – BE13)	*Penultimate Benefits: Progress on the sustainable protein goal will contribute to (BE02-BE13): The Maritoba Brand • Manitoba is regarded as • Manitoba is globally competitive • Consumers benefit from an easteanability, leader—in and secures new customers from producer from and and slobally—and is and markets	a substitution protest appear and choice of choice with increased professions are the agriculture and food sector increased high-varies greater. • Manitoba contributes to UN Sustainable Development Goals • Manitoba's common resilient among resilient and more resilient and more resilient and food wortplace is food wortplace in food wortplace is food wortplace in healthing for arms the profession and the pro	Mantobas: more resilies more de selection de la control d
Sustainable Protein Long-Term Goal	Accelerating Innov		Through strengthened collaboration and accelerated innovation, Manitoba realizes its collective and equitable potential to produce protein that is diverse, high quality, healthy and increasingly sustainable (CTGO1)				NOTE. This logic model is derived from a more detailed Impact Map. Numbors in parentheses refer to particular labelled outcomes in the Impact Map. Passe refer to the Impact Map passe refer to the Impact Map or associated			
FA Target Outcome	Manitoba produces quality, diverse and increasingly sustainable protein (SP01)	Manitoba and individual actors in the SP system measure, report, and value respectively their collective and individual sustainable protein activities and make adjustments accordingly (MMV01)	Manitoba's' agriculture's soils, ecosystems, animals, and biodiversity provide ecosystem goods and services; are healthy, resilient and productive (SE01)	Innovation delivers more impactful SP activities and grows globally competitive innovative enterprises (INO1)	Collaborative SP initiatives and businesses are financed for success and growth (FI01)	A strong, sustainable protein brand distinguishes Manitoba products, builds frust, inspires action and creates value (BMO1)	All contributors to the SP initiative work together effectively, driven by a shared purpose, and underplinned by common values and principles (WT01)	Contributors to the SP initiative are able to have appropriate access to relevant, reliable, and usable information, knowledge, and intellectual property to advance (6) the SP agenda (IKO1)	A sustainable workforce with the knowhow work together to support and accelerate innovation across the SP sector (WK01)	Supportive regulations, policies, infrastructure, and facilities leverage MB's assets and enable acceleration of the SP innovation (PIOT)
Functional Area (FA)	Sustainable Protein Industry (SP)	Measurement, Monitoring & Verification (MMV)	Soil, Ecosystems & Biodiversity (SE)	Innovation (IN)	Finance (FI)	Branding, Communication & Marketing (BM)	Working Together (WT)	Information & Knowledge (IK)	Workforce (WK)	Enabling Policy & Infrastructure (PI)

IMPACT MAP*

Developed as part of Manitoba's Sustainable Protein Advantage Strategy, under the guidance of Manitoba Agriculture and Resource Development and the Manitoba Protein Consortium.

Jan 14, 2021 ver. (35.75 x 29")

Members of the Design Team

This Impact Map was co-created through the generous contributions and guidance of a diverse Design Team:

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Carson Callum - Manitoba Beef Producers

Tim Faveri - Maple Leaf Foods

Bruce Hardy - Myera Group

Wayne Hiltz - Manitoba Chicken Producers

Jim House - University of Manitoba

Marcel Joaquin - IQdigitec Inc.

Egbert Frank Knol - Topigs Norsvin

Susie Miller - Canadian Roundtable for Sustainable Crops

Duncan Morrison - Manitoba Forage & Grasslands Association

Lee Anne Murphy - Protein Highway

Henry Rowlands - Detox Project

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David Weins - Dairy Farmers of Manitoba

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This Sustainable Protein Impact Map* has been developed as part of Manitoba's Sustainable Protein Strategy. Consulting led by

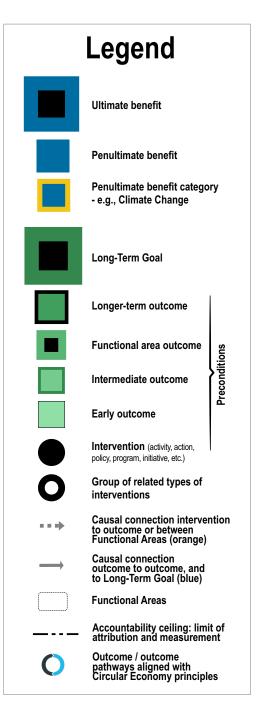
Sustainable Growth Co.

Outcome Mapping led by R. Keith Jones &

k. Keith Jones Associates

Challenge Dialogue System® (CDS)

*Colllaborative Outcome Change Framework using Theory of Change methodology and Kumu online system mapping software



Important Definitional Notes

- **SP** Sustainable Protein (as in Initiative/ Sector / System including often the closely associated agriculture and food system / sector
- [1] Principles of Reconciliation as described in "What We Have Learned Principles of Truth and Reconciliation (pp3-4), 2015. Truth and Reconciliation Commission of Canada.
- [2] Circular Economy principles: A circular economy is based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems.
- [3] Fit-for-purpose means tabular, spatial, meta and are forms of information and knowledge that are relevant, authoritative, complete, accurate, integratable, inoperable, and affordable.
- [4] 21st Century competencies involve the ability to meet complex demands, thrive in a world where change is constant and continuous learning draws on many different complementary of skills such as: learning critical thinking, creativity, collaboration, innovation, self-direction, accountability, and communication; literacy digital information, media, technology; and life skills flexibility and adaptability, leadership, initiative, productivity, and social skills and cross-cultural interaction.
- [5] Sustainability strives to attain balance across four dimensions: (a) place minimal pressure and impact on the environment; (b) promote all aspects of an individuals health and well being; (c) be accessible and culturally acceptable; (d) be economically viable and affordable (source FAO, WHO).
- [6] For example, to inform, advance, and communicate policies, practices, research, innovative enterprise, industry, marketing, measurement and valuation, consumers, and the public.
- [7] For example, indigenous people with traditional knowledge, scientists and researchers, analysts, marketers, practitioners, policy-makers, communicators, management-planners, etc.
- [8] UN SDG goals, and in particular #4 Quality Education; #5 Gender Equality; #8 Decent Work and Economic Growth; #10 Reduced Inequalities; and #16 Peace, Justice, and Strong Institutions.
- [9] This intervention and outcome draw on the Conclusions Other Considerations section of a 2017 report titled "Matchup: A Case for Pan-Canadian Competency Frameworks" by the Canada West Foundation.
- [10] OCAPTM principles are complied with regarding the right of First Nations to own, control, access, and possess information about their peoples.

