C1-OPP1 – PROFIT THROUGH KNOWLEDGE: AI UPSKILLING IN AGRICULTURE

THE OPPORTUNITY

There is a real possibility of improving farm profitability and providing more stable incomes for agricultural workers.

- Building artificial intelligence and digital literacy among owners and operators of small and medium-sized farms can increase productivity, reduce operating costs, and strengthen decision-making. Farmers equipped with AI-enabled tools are better able to manage crops efficiently, anticipate weather and pest risks, optimize inputs, and make data-driven financial and operational decisions.
- Taken together, these improvements can translate into higher farm revenues, stronger profit margins, and more stable employment incomes.

EXAMPLE OF PROVEN PRACTICE

University of Guelph's AI4Food initiative

This initiative blends AI research with hands-on programming in agriculture. Farmers using AI-enhanced literacy reported significant cost savings through optimized fertilizer and water use, improving their bottom line and boosting production yields.

POTENTIAL COLLABORATIVE ECONOMIC DEVELOPMENT VENTURE SERVICES AND PROGRAMS

Smart Farm AI-enabled digital platform

The proposed Smart_Farm platform would provide an integrated suite of bilingual, AI-enabled services designed specifically for farm owners and operators. Key functions would include:

- Practical and affordable AI and digital literacy training tailored to farm operations
- Guidance on accessing federal, provincial, cooperative, and private-sector funding and investment, including connections to expert advisors
- An online peer-to-peer learning network to share experiences, challenges, and solutions
- On-demand advisory support, such as virtual help desks or AI-assisted tools, to support adoption and troubleshooting

The platform would serve as a single access point for knowledge, tools, and support, reducing barriers to AI adoption and accelerating uptake across the sector.

KEY ENABLERS

- Public, private, and civil society investors willing to support the development and operation of Smart_Farm services
- A host organization capable of acting as the lead developer and administrative hub
- Bilingual online programming and service delivery
- Recognition of AI literacy and digital competency as essential elements of modern, profitable farm management
- Partnerships with Agtech suppliers to provide reliable platforms for data sharing, advice, and problem-solving
- Willing participation by farm owners and operators in peer learning and knowledge sharing

KEY PERFORMANCE INDICATORS

- Number of farmers completing AI and digital literacy training
- Adoption rate of AI tools, such as predictive crop monitoring and resource optimization
- Improvements in farm-level productivity and profitability
- Changes in average annual employment income for operators on participating farms

CATEGORIES OF KEY PPCS STAKEHOLDERS

- Agricultural producers
- Agtech support firms and networks
- Government (all levels)
- Public service agencies
- Educational institutions
- Funders (public, private and civil society)
- English-speaking community organizations
- Economic development organizations
- Trade and industry associations
- Cooperatives

WHY INVEST MY TIME / WHY INVEST ORGANIZATIONAL RESOURCES / HOW TO ATTRACT INVESTORS

Smart_Farm offers a scalable, evidence-based pathway to strengthen Quebec's agricultural economy while improving income stability and workforce outcomes. It aligns productivity, sustainability, and economic inclusion, delivering measurable returns for farmers, workers, investors, and communities.

C1-OPP2 — SMART_FARM: STABILIZING SEASONAL INCOMES WITH AI WORKFORCE PLATFORMS

THE OPPORTUNITY

There is a real possibility of increasing employment income for seasonal workers while reducing recruitment costs and improving productivity for farm operators.

Quebec's agriculture sector shares seasonal labour rhythms with tourism and related sectors. Farms face labour shortages during planting and harvest, while tourism peaks later in the year. Workers cycle in and out of short-term employment, leading to income instability, while employers incur repeated recruitment and training costs.

An AI-enabled, cross-sector workforce platform could coordinate labour demand across agriculture and tourism, improving job continuity for workers and lowering hiring costs for employers.

EXAMPLE OF PROVEN PRACTICE

Canada's Seasonal Agricultural Worker Program (SAWP)

SAWP demonstrates the value of structured labour matching. Workers return to the same regions and employers year after year, improving skills, reducing onboarding costs, and increasing employer productivity. A digital, cross-sector extension of this logic could deliver similar benefits domestically.

POTENTIAL COLLABORATIVE ECONOMIC DEVELOPMENT VENTURE SERVICES AND PROGRAMS

Smart_Farm Workforce Exchange Platform

- A bilingual AI-powered system which matches workers to seasonal roles across agriculture and tourism; coordinates labour demand across regions and sectors, and reduces recruitment costs and improves worker income stability

Smart_Farm AI-Enabled Workforce Readiness Training

- Short, online training modules to build transferable skills; improve employability and productivity across sectors

Smart_Farm Seasonal Labour Mobility Fund

- Subsidized travel and housing support for workers who move between regions and sectors to meet seasonal demand

KEY ENABLERS

- Public, private, and civil-society investment
- A capable host organization to lead development and operations
- Bilingual digital service delivery
- Alignment of seasonal contracts across the agriculture and tourism sectors
- Government wage subsidies supporting cross-sector employment

KEY PERFORMANCE INDICATORS

- Reduction in recruitment costs for farms
- Number of workers matched across sectors
- Average annual income of seasonal workers
- Retention rates among cross-sector participants

CATEGORIES OF KEY PPCS STAKEHOLDERS

- Agricultural producers
- Tourism operators and regional tourism boards
- Agtech support firms and networks
- Government (all levels) and public service agencies
- Educational institutions
- Funders (public, private and civil society)
- English-speaking community organizations
- Economic development organizations
- Cooperatives

WHY INVEST MY TIME / WHY INVEST ORGANIZATIONAL RESOURCES / HOW TO ATTRACT INVESTORS

This opportunity stabilizes incomes, reduces employer costs, and improves workforce utilization across sectors. It delivers measurable productivity gains while strengthening rural and regional labour markets through collaboration rather than isolated hiring.

C1-OPP3 – SMART_FARM: REVENUE SECURITY THROUGH AI-DRIVEN SUCCESSION PLANNING

THE OPPORTUNITY

There is a real possibility of securing farm revenues, preserving jobs, and sustaining rural economies through structured succession planning.

- Nearly 40% of Canadian farmers are expected to retire within the next decade. Without clear succession plans, farms face closure or consolidation, undermining food security, local employment, and rural tax bases.
- AI-enabled succession tools can improve readiness by matching retiring farmers with successors, modelling financial transitions, and preserving farm-specific knowledge.

EXAMPLE OF PROVEN PRACTICE

University of Alberta – Family Farming Legacy Research

Research shows that nearly 88% of Canadian farmers lack a formal succession plan due to financial, legal, emotional, and identity barriers. This underscores the need for structured tools that support planning and matching.

POTENTIAL COLLABORATIVE ECONOMIC DEVELOPMENT VENTURE SERVICES AND PROGRAMS

Smart_Farm Succession AI Platform

- Predictive analytics to assess farm viability and match successors

Smart_Farm AI-Guided Transition Planning

- Financial modelling for retirement income, transfers, and investment readiness

Smart_Farm Mentorship & Knowledge Transfer

- Combines AI matching with human mentorship to preserve expertise

KEY ENABLERS

- Public, private, and civil-society investment
- A capable lead host organization
- Partnerships with Agtech providers
- Bilingual digital programming
- Professional support for tax, legal, and financing processes

KEY PERFORMANCE INDICATORS

- Number of AI-supported succession plans completed
- Number of successful intergenerational transfers
- Reduction in farm closures
- Farm revenues

CATEGORIES OF KEY PPCS STAKEHOLDERS

- Agricultural producers
- New entrants into the AG sector
- Agtech support firms and networks
- Government (all levels) + public service agencies
- Educational institutions
- Funders (public, private and civil society)
- English-speaking community organizations
- Economic development organizations
- Trade and industry associations
- Cooperatives

WHY INVEST MY TIME / WHY INVEST ORGANIZATIONAL RESOURCES / HOW TO ATTRACT INVESTORS

Smart_Farm leverages AI-enabled tools to support structured farm succession planning, matching retiring farmers with qualified successors while modelling financial and operational transitions. This approach protects productive agricultural assets, stabilizes rural employment, and ensures long-term revenue continuity in regions facing demographic transition.

C1-OPP4 – SMART_FARM: AI-OPTIMIZED EQUIPMENT SHARING

THE OPPORTUNITY

There is a real possibility of increasing productivity and profitability for smaller farms through access to advance equipment and technology, while also ensuring more stable employment for workers. High capital costs limit access to equipment for many small and medium-sized farms. AI-enabled platforms could schedule and monitor shared equipment across multiple farms, reducing per-farm costs and maximizing equipment use. Predictive maintenance minimizes downtime and extends asset life.

EXAMPLE OF PROVEN PRACTICE

Cooperative Equipment Sharing Pilots

A global agricultural equipment manufacturer that partnered with Coforge to conduct global pilot projects using IoT sensors and predictive analytics has demonstrated improved machine uptime, reduced maintenance costs, and stronger returns on shared equipment investments.

POTENTIAL COLLABORATIVE ECONOMIC DEVELOPMENT VENTURE SERVICES AND PROGRAMS

Smart_Farm Equipment Sharing Platform

- AI-based scheduling and predictive maintenance

Smart_Farm Shared Leasing & Co-Investment Fund

- Cooperative financing with municipalities and suppliers

Smart_Farm Demonstration Projects

- Pilot farms showcasing ROI in minority language communities

KEY ENABLERS

- Public, private, and civil-society investment
- Municipal incentives and cooperative models
- A capable host organization
- Partnerships with Agtech suppliers
- Bilingual digital service delivery

KEY PERFORMANCE INDICATORS

- Number of farms participating in equipment-sharing networks
- Reduction in per-farm equipment costs
- Return on investment for shared assets
- Farm profitability

CATEGORIES OF KEY PPCS STAKEHOLDERS

- Agricultural producers
- Agtech support firms and networks
- Government (all levels)
- Public service agencies
- Educational institutions
- Funders (public, private and civil society)
- English-speaking community organizations
- Economic development organizations
- Trade and industry associations
- Cooperatives

WHY INVEST MY TIME / WHY INVEST ORGANIZATIONAL RESOURCES / HOW TO ATTRACT INVESTORS

This opportunity lowers capital barriers, improves productivity, and stabilizes employment while maximizing the value of existing assets. It delivers clear financial returns through collaboration rather than duplication.