

Innovation trends in the agriculture¹ subsector, 2019-2021



The South African agriculture subsector (animal and crop farming) makes an important contribution to development and economic growth in the country. Total income earned increased by 11.9% between 2020 and 2021, with about 801,503 people employed.² As the subsector continues to grow and evolve, embracing innovation and modernisation practices becomes increasingly important to sustain its growth trajectory and overall contribution to the economy.

A majority (69.4%) of businesses in the agriculture subsector engaged in innovation activity between 2019 and 2021. Businesses engaged in mixed farming, livestock farming, and growing of cereal reported higher levels of innovation activity.

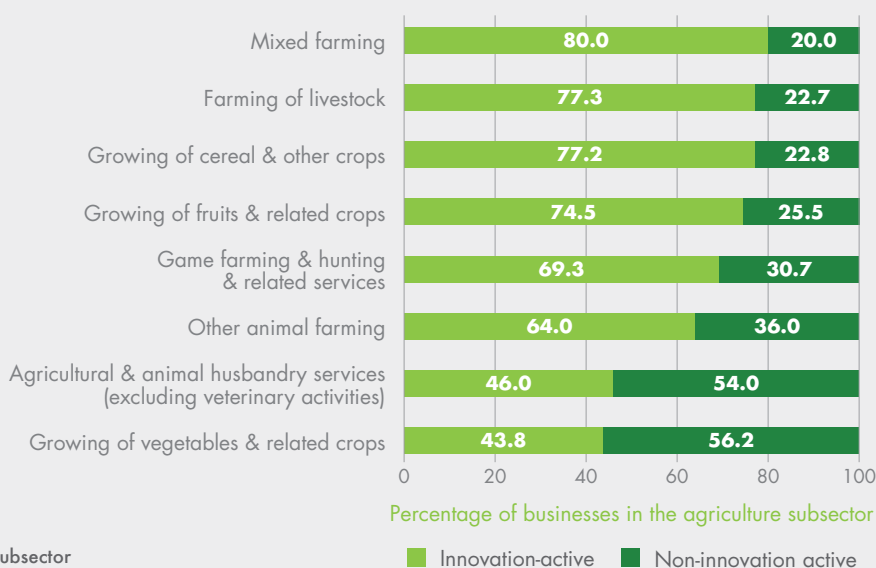
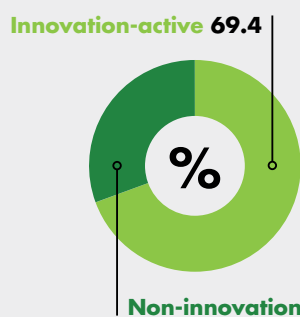


Figure 1: Innovation activity by businesses in the agriculture subsector

Levels of innovation activity were higher for businesses engaging in process innovation.



Figure 2: Innovation-active businesses in the agriculture subsector by innovation type

¹ The agriculture subsector refers to crop and animal farming and excludes the forestry and fisheries subsectors.

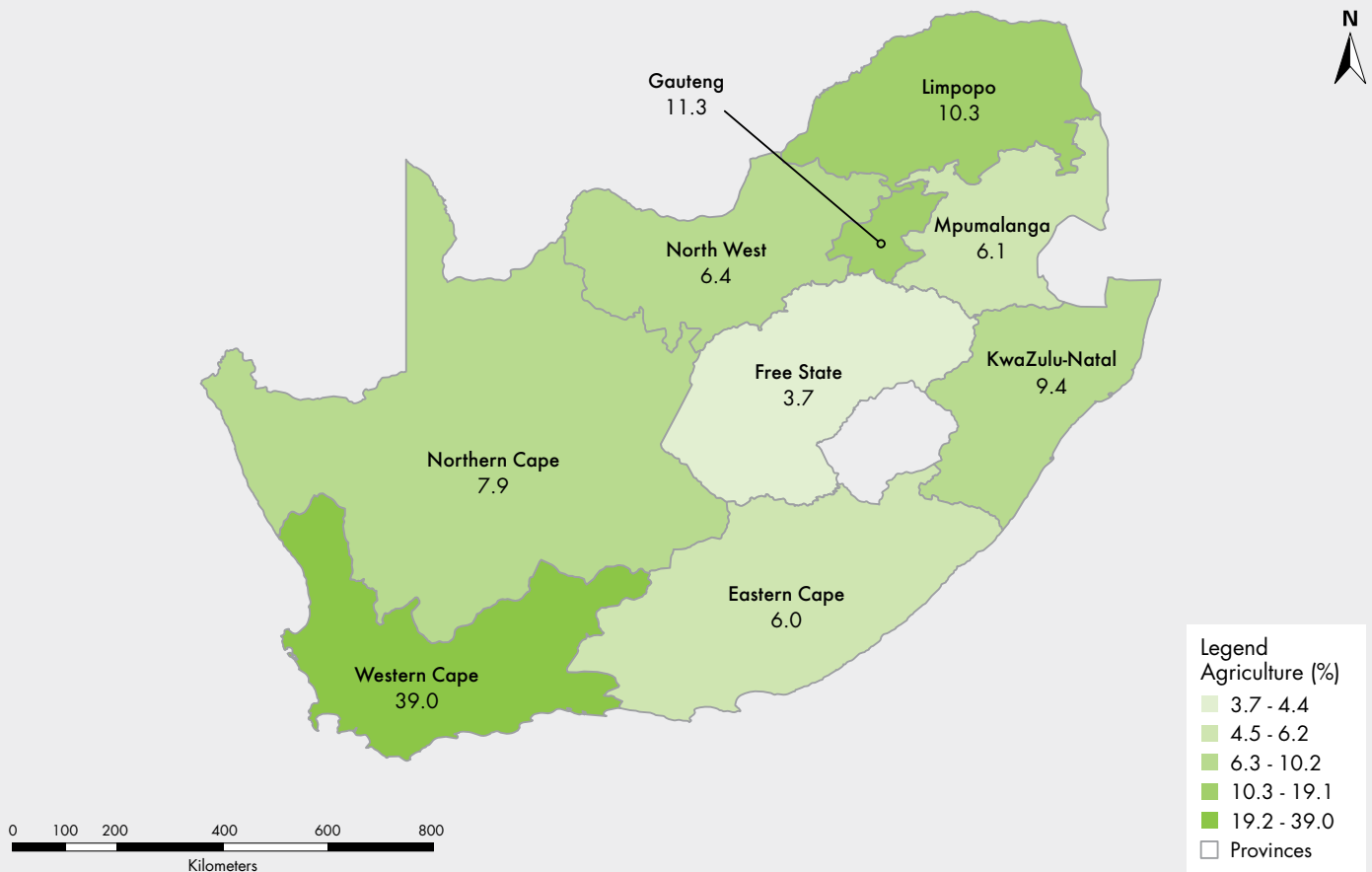
² Statistics South Africa. 2021. *Agricultural Survey*. Available at: <https://www.statssa.gov.za/publications/P1101/P11012021.pdf>

What types of innovation did businesses in the agriculture subsector implement during 2019-2021?

Process innovation was the most prevalent type of innovation implemented by businesses in the agriculture subsector, compared to product innovation.



The Western Cape stood out as the hotspot for innovation-active businesses in the agriculture subsector, while the Free State had the least innovation activity.



What types of innovation activities were businesses in the agriculture subsector engaged in during 2019-2021?

The top three innovation activities that businesses in the agriculture subsector invested in were (1) **training** of their employees (60.4%), (2) **acquisition of machinery and equipment** (51.2%), and (3) **acquisition of computer software** (47.2%).

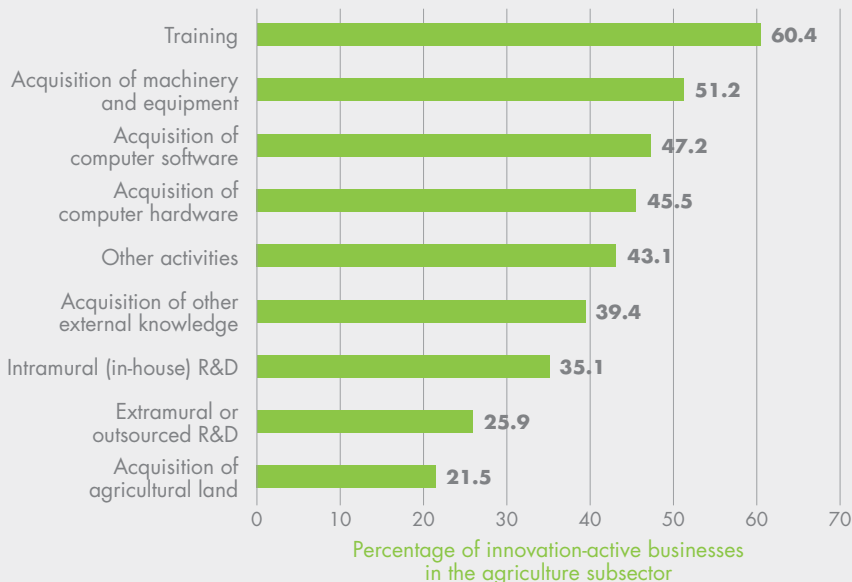


Figure 5: Innovation activities by innovation-active businesses in the agriculture subsector

What types of advanced ICTs did businesses in the agriculture subsector adopt during 2019-2021?

Most businesses in the agriculture subsector adopted **precision agriculture** (39.8%) and **air and soil sensors** (38.7%).

Only **2.2%** of businesses adopted **blockchain technology**, making it the least adopted advanced technology in the subsector.

The results reflect a moderate uptake of advanced technologies by businesses in the subsector.

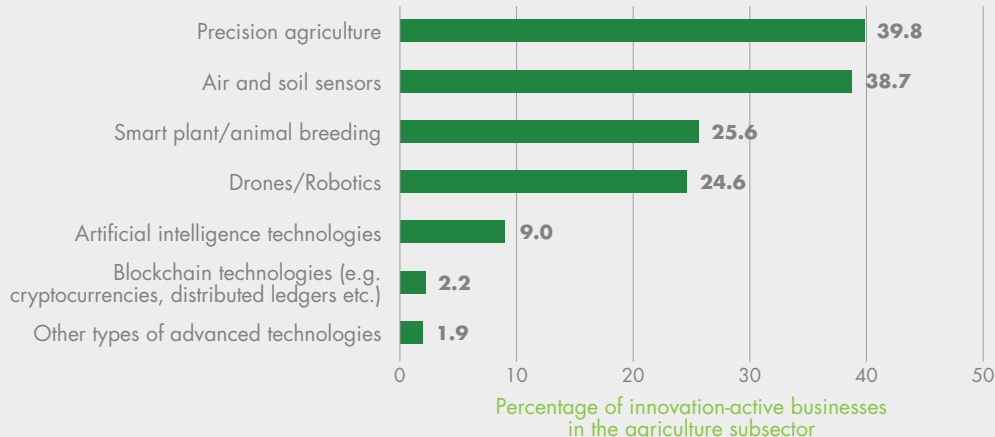


Figure 6: Adoption of advanced ICTs by innovation-active businesses in the agriculture subsector

What did innovation-active businesses in the agriculture subsector perceive to be the most important outcomes of their innovation(s) during 2019-2021?

Improved soil fertility (26.2%), **increased revenue** (22.7%) and **increased crop yield** (22.2%) were the three highest reported important outcomes of innovation for businesses in the agriculture subsector.

Businesses in the agriculture subsector reported improved soil fertility as a highly important outcome of engaging in innovation.

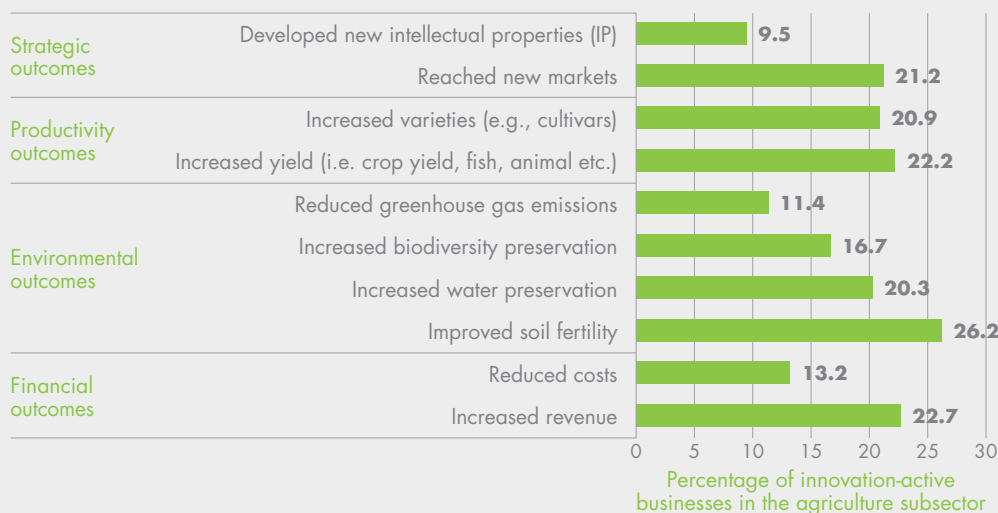


Figure 7: Innovation outcomes of innovation-active firms in the agriculture subsector

What were the most important barriers to innovation that businesses in the agriculture subsector faced during 2019-2021?

Almost half of the businesses in the subsector reported **access to finance** (47.3%) and **agricultural regulations** (47.7%) as the most important barriers to innovation. **Access to water** followed as a highly important barrier to innovation.

Competition from other farmers was least likely to be a highly important barrier experienced by the businesses.

Financial constraints and agricultural regulations were highly important barriers to innovation reported by most businesses in the subsector.

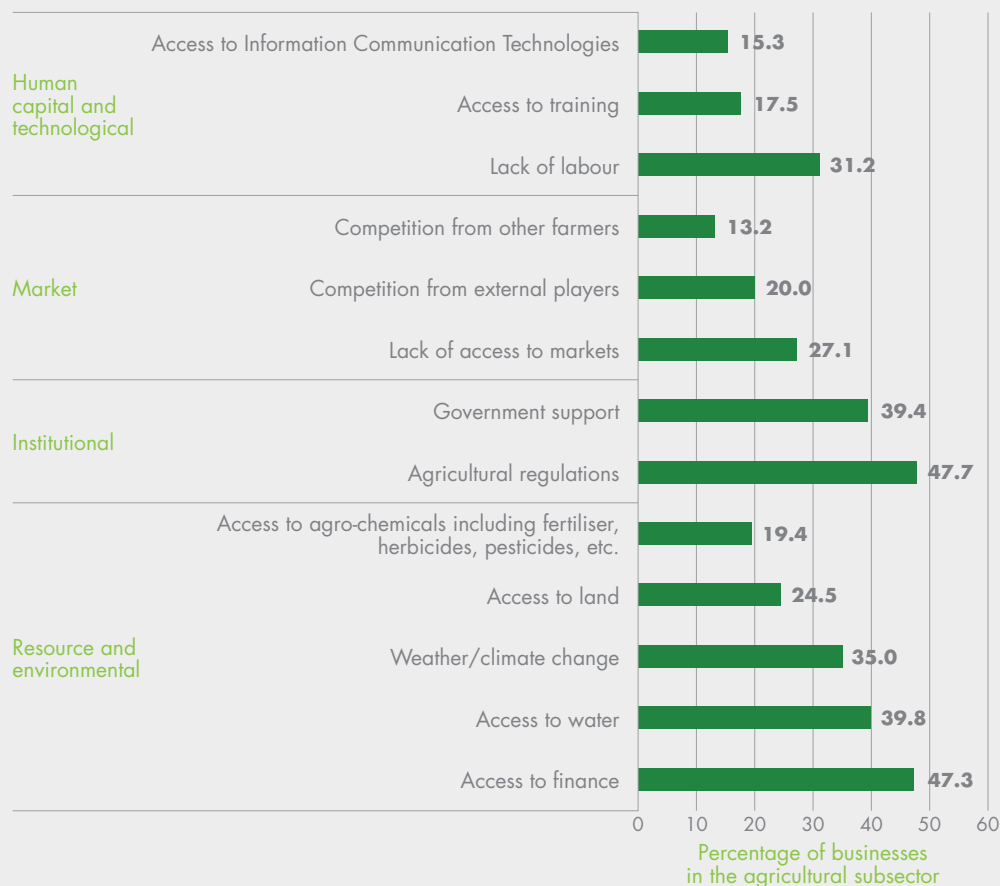


Figure 8: Barriers to innovation rated highly important by businesses in the agriculture subsector

About this brief

This brief is one of three sector-specific analyses drawn from the Agricultural Business Innovation Survey 2019-2021. It provides insight into innovation trends in the **agriculture (animal and crop farming) subsector** so that businesses can compare and benchmark their innovation activities. Industry associations and policymakers can use the data in their efforts to mobilise and support innovation activities across the agriculture subsector.

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