COST BENEFIT ANALYSIS:
On-farm water technology

John Francis **AGRISTA** I March 2025

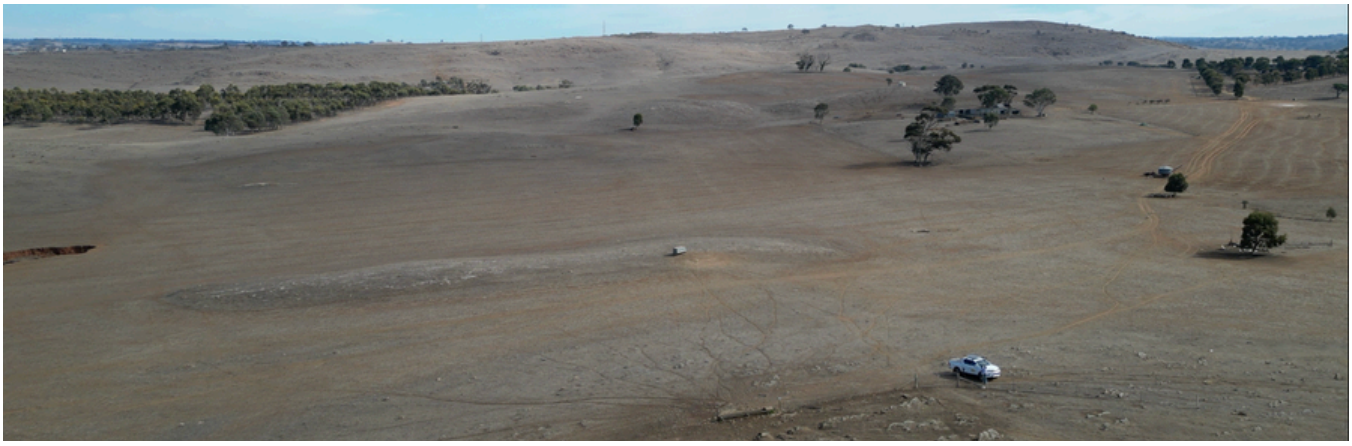
TAKE HOME MESSAGE:

Investments in water monitoring and maintenance technologies deliver high returns on investment due to their low upfront and running costs and reduction in labour (time taken to check and maintain water).

BACKGROUND

Barossa Improved Grazing Group's (BIGG) *On Farm Water Innovations Project* established five case study farms investing in technology to improve water monitoring or water quality. Technologies included water monitoring devices, remote camera devices and water aeration devices. The case study farms were located in the Barossa region covering a variety of different livestock enterprises (sheep, beef and dairy).

The difference between the frequency of monitoring prior to investing in the new technology and the frequency of monitoring after implementing the new technology over a five-year period was compared to value the benefit of each technology.



Sean Foulis' remote livestock onitor case study farm.

Australian Government
Department of Agriculture, Water and the Environment
Future Drought Fund
SA DROUGHT HUB

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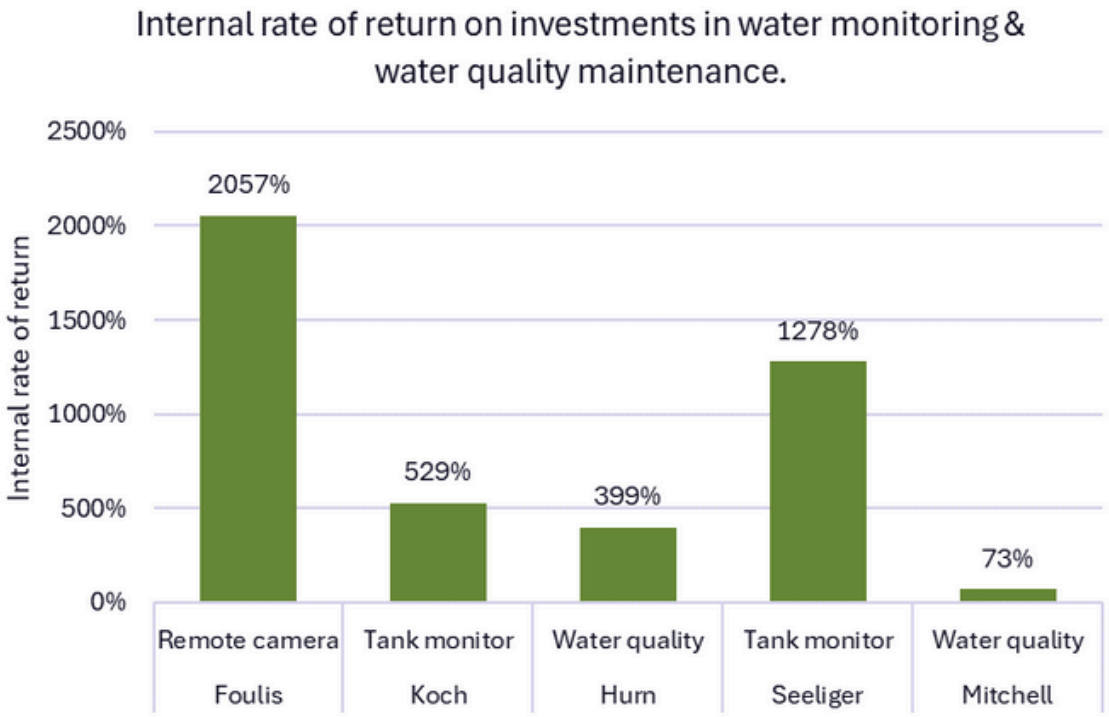
ANALYSIS OVERVIEW

Analysis of the five investments in technologies saw returns exceed 100% in four case studies and exceed 50% in one case study. The high return on investment is due to:

- The cost of the monitoring and maintenance technology being low.
- The technology is automated, requiring little costly human intervention.
- The value of the labour saved in physical monitoring is high.

Additional benefits included reduction in vehicle depreciation, and repairs and maintenance. In the case of water aeration devices, water savings were achieved when cleaning troughs due to reduction in wastage of water and in time taken to clean troughs. This evident time savings was a result of the aerated water minimising accumulation of substances like algae, mineral deposits and bacteria within the water.



The graph above highlights each technology investment and the extremely high returns on investment. While the water quality device of Mitchell looks to have delivered low returns relative to the other investments the return itself is still very high. The reason for this lower return on investment was that the frequency of water monitoring trips and the distance travelled to monitor the water was far lower than the other investments.

In this analysis the up-front capital cost of the investment in the technology is incurred prior to the first year of the cashflow while the stream of costs and benefits occurs over the following five year period. The devices have been assumed to have a useful life of five years. It is likely that the useful life of the technology will exceed this period, however due to the low value of the technology, the residual value at the end of period will have little impact on the return.

For further information and detailed analysis, please visit:
www.biggroup.org.au/on-farm-water-technology/