

Counting the Costs and Benefits: Economic and Social Dimensions of Rising Salinity in Agriculture

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Salinisation is one of the key land degradation processes that is intensifying under the influence of progressing climate change. As soil salinity increases, it poses a growing threat to agricultural productivity and rural livelihoods in affected regions. In response, integrated soil, water, and plant management techniques—collectively referred to as saline agriculture—are being increasingly adopted around the world. While technical and agronomic aspects of saline agriculture have received growing attention, its broader socio-economic implications remain underexplored.

Current academic and policy debates often centre around yield loss, adaptation strategies, and opportunity costs. However, they frequently overlook the potential revenues, socio-economic benefits, and long-term value creation that saline agriculture projects can bring. Additionally, social and environmental costs and benefits are often either not measured at all or are addressed only superficially, leaving significant knowledge gaps.

The main aim of this keynote speech is to highlight and showcase emerging examples of socio-economic analysis in the context of saline agriculture. Drawing on a meta-analysis of peer-reviewed scientific literature, this presentation compares the economic values, analytical methods, and geographical distribution of studies that assess the costs and benefits of agricultural production on salt-affected lands featuring latest and most promising research.

This analysis provides valuable insights for researchers evaluating project viability, as well as for policymakers and impact investors seeking to make informed decisions in areas increasingly affected by salinity. By broadening the scope of discussion to include socio-economic dimensions, this keynote seeks to contribute to a more holistic understanding of saline agriculture's potential in a changing climate.

Keywords: saline agriculture; meta-analysis; costs and benefits; socio-economic analysis