

Regenerative agriculture and adaptive capacity of farmers

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Regenerative agriculture is a transformative approach to food and fibre production that has a strong emphasis on climate change mitigation and a host of environmental and sociological benefits. Hence, adaptive capacity is recognised as a crucial property for societies to adapt to and transform systems in response to changing conditions such as climate change. A key challenge in assessing adaptation strategies is balancing the environment, financial and social factors, and an assessment of the adaptive capacity determinants within regenerative agriculture is sparse. The present article explores resilience theory as a foundation for assessing the adaptive capacity determinants and analyses examples of regenerative agriculture practices. A conceptual model is therefore developed to highlight the circularity of regenerative agriculture with the environmental, financial and social benefits that the adaptation of regenerative agriculture can bring.

Keywords: Adaptive capacity, conceptual model, regenerative agriculture, resilience theory, social-ecological systems, transformation.

activated in response to crisis or opportunity⁷. Adaptive capacity is recognised as a crucial property for societies to adapt to and transform systems in response to changing conditions. Including climate change impacts, a myriad of other drivers such as policy shifts, volatile commodity markets, changing consumer preferences and societal expectations affect farmer adaptive capacity⁸. Insights into farmers' adaptive capacity are therefore helpful to understand how farmers perceive various options in the decision-making process to enable their farms to persist through challenging times⁸.

Given the increasing climate change impacts that farmers are facing in the short, medium and long term, it is critical that farmers are supported with the necessary tools that increase their adaptive capacity. Australian producers, for example, have generally high adaptive capacity^{9,10}, and this has proved useful in achieving maximum yields through conventional agricultural techniques. However, conventional agriculture eschews instability and is reliant on significant (external) inputs, which can result in rigidity traps and maladaptive management strategies¹¹. The dominant food paradigm model with its myths of efficiency requires critical questioning¹², and to sustain our natural assets and not breach the ecological carrying capacity of our land.