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ADAPTING TO CLIMATE CHANGE: FARMERS' RESPONSES TO HEAT AND DROUGHT IN SOUTH AUSTRALIA

Abstract:

This paper focuses on one of the key challenges facing farming communities around the world, namely how to adapt to changes in climate that can threaten farming livelihoods. The paper draws upon two detailed studies in South Australia where farmers have long been accustomed to dealing with issues of water shortage and very high temperatures. However, recent modelling predicts increased severity of drought and more incidences of extreme heat in some of the prime farming districts in the state. Farmers are already commenting on seasonal changes to water availability and to variations in the timing and duration of very hot weather.

The two studies have examined ways in which farmers are reacting to these changes in weather and climate, firstly using in-depth interviews with a small sample to look specifically at their attitudes towards spells of excessive heat, and second, focusing on adaptations being made in their farming systems. The latter study involved semi-structured interviews with formal institutions, e.g. government agencies, and communities of practice, e.g. farm systems groups, within two major regions in South Australia. Members from both groups interviewed in the second study noted that farmers autonomously adapt to a variety of risks, including those induced by climate variability; however, the types and levels of adaptation varied among individuals as a result of different barriers to adaptation. The lack of communication and engagement processes established between formal institutions and communities of practice was one such barrier.

The paper presents and discusses a model for transferring knowledge and information on climate change among formal institutions, communities of practice, trusted individual advisers and rural landholders, and for supporting the co-management of climate change across multiple groups in agricultural areas in South Australia and elsewhere. The prevalence of particular views held by farmers about heat and drought need to be addressed by policy makers if specific types of adaptation are being promoted.

Keywords:

climate change, farmers, formal institutions, communities of practice

JEL Classification: Q54, Q56, Q15