

Topic: Climate change adaptation and mitigation at the farm scale

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Integrating the impact of climate change, price changes and recent CAP orientation on Mediterranean farming systems.

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It is of interest to compare the possible impact of climate change (CC) on agriculture with the possible effects of changes in the agricultural policies and regulations, as well as market conditions. In this regard, recent studies show that the impact of changes in the policies, regulations and market conditions may be even larger than that of the CC and may determine the changes in land use and livelihood strategies of farms in highly vulnerable areas to CC. New technologies could compensate for the adverse impacts of increased occurrence of negative conditions. On the other hand, changes in the ratios between commodity and factor prices interact with CC, in some cases balancing its impacts, in other cases accentuating them. In addition, new market regulation such as the abolishment of the milk quota and many measures originating from the recent orientation of the CAP may contribute to improved adaptation to the CC.

In this paper we review the analysis of the impact of CC in the Oristano MACSUR study area, to integrate the influence of elements, other than CC, on the management and adaptation strategies of local farming systems. We focus on milk quota abolition, CAP reform, with new direct payments, new price conditions and technological improvements as provided by the CAPRI network. The study represents the productive conditions of the area with a discrete stochastic programming model specified for its main farms types, irrigated and rainfed. This version of the Oristano model allows adjustment of herd and flock characteristics, acreage of tree crops and other structural elements. The assessment verifies the relationship between impact of CC and the influence of policy, and of new technological and market conditions.