125. Livestock farmers' investment toward climate-smart production: impact of an incentive program in Chorotega, Costa Rica

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Aside from the well-known payment for environmental services program for forest conservation, Costa Rica engaged in an agro-environmental program as an incentive to small and medium farmers to implement sustainable farming systems in 2007. This program expressly aims at mitigation and adaptation to climate change and targets livestock farming as a main source of greenhouse gas emissions. Conditioned on investing in some assets identified as leading to both improved natural resource management and enhanced productivity, a cash reward called "Recognition for Environmental Benefits" (REB) is granted to voluntary farmers and accounts for 20-30% of the investment cost. The effectiveness of such an economic policy instrument to enhance farmers' adoption of sustainable practices relies on the extent of additional versus windfall effect. We used treatment effects methods to estimate the additional impact of REB program on participants' investment between 2006 and 2012. Based on a sample of 63 past and future participants in the Northwestern region, we found that REB participation had significantly increased the adoption of some types of eligible assets. Moreover, we identified an indirect effect on farmland uses and an increment in stocking density, caused by REB participation. Finally, we attributed a carbon sequestration index to each farm in both years, according to its land uses and considering the literature. Mitigation, adaptation and food security have been discussed, and we concluded that REB program has supported the implementation of climate-smart solutions for livestock production, in one of the poorest and most drought-prone regions in the country.