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Role of Innovation System in Coffee Agroforestry System to Adapt to Climate Change in Kenyan Coffee and Dairy Sectors

Asayehegn K.¹ (kinfe85@gmail.com), Temple L.², Iglesias A.³

¹Dr., Hawassa, SNNPR, Ethiopia; ²UMR Innovation, CIRAD, Montpellier, France; ³UPM Madrid, Madrid, Spain

Climate change is one of the most widespread anthropogenic challenges affecting agriculture and agricultural production in the coffee agroforestry system, where its impacts on economic growth in general are still issues in debate. An adjustment to the actual or expected changes in the agricultural sector using different innovative adaptation strategies has to be among priorities in policy decisions. Research on sectoral systems of innovation in coffee agroforestry systems, however, has paid little attention to adaptation to climate change, notably in agricultural trade and agri-business. This paper, therefore, explores the role of systems of innovation in coffee agroforestry system in adapting to climate change, which have methodological, conceptual and policy implications. It focuses on two case studies in the Kenyan coffee based agroforestry system, i.e. the coffee and dairy sectors, which differ in terms of stakeholders and institutional setups. In the coffee sector, the actors' system is highly centralized and the system of innovation is oriented towards technology development. In contrast, the dairy sector consists of a diversity of actors, and its system of innovation is based on institutional building and marketing. The capacity to innovate and adapt in the coffee agroforestry system, therefore, depends on institutional arrangements in addition to technology development, suggesting that the dairy sector in Kenya could be an example for the coffee sector.

Keywords: Agroforestry, Climate Change, Coffee and Dairy, Sectoral System of Innovation, Central Kenya.