ANP MODELING OF COMPLEX SOCIO-ENVIRONMENTAL SYSTEMS: ADAPTIVE CAPACITY OF SMALLHOLDER COFFEE SYSTEM IN MESOAMERICA

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ABSTRACT

Coffee has been and still remains one of the most important commodities of the Mesoamerican region. Guatemala, Mexico, Costa Rica and El Salvador are among the top ten largest coffee exports in the world. Nevertheless, the social and economic upheaval that characterized the coffee sector has prompted the need for coordinated regional assessments of rapidly changing social and environmental conditions. Such evaluations of the drivers and outcomes of regional change can help broaden the scope and integration of policy, not only in the context of a particular national setting, but also regionally. In this paper, we applied the ANP to synthesize the collective knowledge of a group of experts in different aspects of the coffee sector in five countries in the region. Through the ANP, these experts identified and linked the drivers, adaptations and capacities that characterize the vulnerability of individual farm households across the Mesoamerican region. Results show that the strength of the ANP is that it can accommodate the intricate interconnections among components of the smallholder coffee system of Mesoamerica. This capability of the ANP enables the development of a sound structured conceptual model of what otherwise would be an unmanageably complex social-environmental system.

Keywords: drivers, adaptations, capacities, household vulnerability, shade grown coffee

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