Can Carbon Markets Facilitate a Sustainability Transition on Ranchlands in the American West? Limitations and Alternatives

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Rangeland managers are positioned to play an important role in a global sustainability transition since their management practices have bearing on, among other things, efforts to mitigate climate change through increased soil carbon sequestration. In many parts of the world, however, rangelands are being managed in a way that exacerbates soil erosion and carbon emissions; thus there is a need to identify governance mechanisms for incentivizing “best management practices.” Voluntary carbon markets have been developed in the U.S. to incentivize and enable carbon-friendly range management through the generation of soil carbon offsets that can be sold through the Chicago Climate Exchange or “over the counter”. These markets have the potential to enhance both social and ecological resiliency, by enabling income diversification on U.S. ranches while simultaneously contributing to climate change mitigation. Drawing on findings from research on US ranchers’ experiences with the voluntary carbon market, this paper identifies limitations to this approach, primarily having to do with their ineffectiveness in ensuring additionality and their inability to address the significant barriers faced by ranchers seeking to transition to more sustainable rangeland management practices. The paper then considers architectural innovations that will need to take place in a coordinated fashion at multiple scales if such transitions are to occur. We identify “levers of change” – forces that both control the rate of positive change and that are subject to policy intervention. Key levers at the local and regional scale are mostly social in nature and include the cultivation of support structures that effectively engage actors in new approaches to range management and enhance local capacity for self-organization and adaptive co-management (e.g. “rancher collaboratives”). At the national/international level, new types of financial levers (e.g. a compliant carbon offset market, reformed Farm Bill programs and subsidies) must be developed to incentivize and facilitate more resilient rangeland social-ecological systems. A central goal of this research is to identify linkages between local actors responsible for the provision of ecosystem services like carbon sequestration, and governance mechanisms at local, regional, national and global scales.