



Combining social policy and scientific knowledge with stakeholder participation can benefit on salted grassland production in Northeast China

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Soil salinization is a serious environmental problem across the Eurasian steppes, where millions people have been living for at least five thousand years and will still depend on it in the near future. During the last several decades, ecologists and grassland scientists have done much research on rational grassland utilization avoiding land degradation and reduction in ecological services. Meanwhile, the central and local governments took some attempts of agricultural policy and ecological subsidy to mitigate large scale land salinization in Northeast China. Fortunately, more and more farmers and stakeholders begin to adopt rational grassland management with the guidance of scientists and the help of local governments. However, up to date, there is still a gap between farmers, scientists and governments, which often negatively affect grassland production and remission of soil salinization in these areas. We conducted a case study on sustainable grassland production adapted to steppe salinization funded by EC project from 2011 to 2013. Our goal is trying to establish a mode of adaptive grassland management integrating previous scientific knowledge (grazing and seeding), current agricultural policies (ecological subsidy) and stakeholders' participation or performance. The study showed that: A. Despite of some grassland utilization techniques available for stakeholders (regulating stocking rate and seeding in pastures, or planting high quality forages), they tended to take the simplest action to enhance animal production and prevent grassland salinization; B. Compared to educating or training stakeholders, demonstration of grazing management is the most effective mean for knowledge dissemination or technology transfer; C. Ecological subsidy is absolutely welcome to the local people, and technology transfer became easier when combined with ecological subsidy; D. There was a contrasting effect in grassland production and land degradation mitigation for experimental farm that integrated social policy and scientific knowledge with stakeholder participation; that is, the stakeholder had higher animal production without accelerating grassland salinization during the three experimental years. Furthermore, this case study suggested that the perception and participation of stakeholders play an important role in grassland management adapted to environmental changes, and it is possible for grassland management to effectively integrate society and science.