



Rethinking Soils: an under-investigated commons?

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In a number of global contexts there is a re-awakening of interest in soils in both increasing the resilience of complex social-ecological systems (SES) and as a result of the threats to them, as shown by the UN International Year of Soils in 2015. Consequently the management of soils and their wider role within property regimes and natural resource management might need to be reassessed. At the heart of this is the rise in awareness regarding the connectedness of SES, and in frameworks such as the Ecosystem Approach and the identification and analysis of Ecosystem Services. Whilst not new to some, it has widened the understanding among many, that soils have a valuable role to play in complex SES because they are a slow variable crucial to underlying structure of the SES. The conventional approach that soils are linked to the ecosystem services category of provisioning services (production of food, timber and fibre) remains valid. Not surprisingly this link is strong within natural resource management and property rights regimes but soils remain at risk for a range of threats, for example soil erosion and compaction, salinization, sealing, desertification, loss of organic matter and biodiversity and contamination. However, soils are increasingly seen as a slow variable that can lead to increased resilience within a SES and have a profound importance to human life through a range of regulating services including water quality and purification, water flow and attenuation and , pest and disease control.

Given the long-standing importance of soil as a natural resource there are also accompanying legal systems, property regimes, societal values, knowledge, custom and traditions. However, in the light of the wider understanding soil functions are these social frameworks appropriate and fit for purpose or would a shared resource of commons approach be more appropriate. To some extent this examination would also extend to the presence of soils within the cultural services category of ecosystem services.

As a result of the increasing evidence regarding soil threats, there is concern that the knowledge relating to soils is fragmented and incomplete. This is particular true regarding the complexity and functioning of soil systems and their interaction with human activities and the effectiveness of governance arrangements to promote resilience in the management of soils. Therefore discussions concerning soils needs to be taken from an interdisciplinary perspectives that embraces both natural and social sciences.

This paper will seek to examine soils from a multi-scale governance/complex commons perspective. It will also consider how a commons perspective might be useful in reducing soil threats and in the development of effective prevention, remediation and restoration measures. This often requires a change in thinking about soil, perhaps considering it as a 'slow variable', able to drive long-term change or as a 'cultural asset' and 'knowledge resource'.