



sustainability



Special Issue Reprint

Assessment and Governance of Sustainable Soil Management

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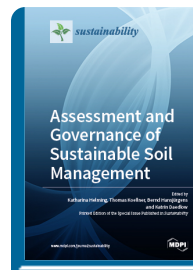
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The role of soils for achieving the Sustainable Development Goals is multifarious. Soils are the essential basis for food and biomass provision in support of food security (SDG 2) and energy security (SDG 7). Soil carbon sequestration is paramount for climate action (SDG 13). Soil-mediated water purification and retention, nutrient and matter cycling, and soils habitat functions are essential for maintaining ecosystem services and biodiversity (SDG 15). Healthy soils perform well in all these functions simultaneously. However, the globally increasing demand for food, fiber, and bio-based products poses massive challenges to soil health. Minimizing trade-offs between biomass production and soil health requires systemic approaches to assessment and governance of sustainable soil management in agriculture and food systems. It provides interdisciplinary insights into key questions: What are the impacts of agricultural management practices on sustainability targets in specific geophysical and socio-economic contexts? What are the opportunities and risks of future trends such as climate change, digitalization, and emerging technologies for soil management and soil health? How can institutions and governance instruments be improved to enable decision makers to take action on sustainable soil management? The book was initiated in the frame of the National German research program ‘BonaRes—Soil as a sustainable resource for the bioeconomy’, and it is meant to trigger interdisciplinary



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