



Re-Imagining soils sustainable futures: a critical inquiry at the science-policy interface for soils re-politicisation

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Certificate of Original Authorship

I, Mariana Gonzalez Lago declare that this thesis, is submitted in fulfilment of the requirements for the award of Doctor of Philosophy in Sustainable Futures, in the Institute for Sustainable Futures at the University of Technology Sydney.

The thesis is wholly my own work unless otherwise referenced or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

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Paper I

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Statement of Contributions of Authors

We, Roel Plant and Brent Jacobs attest that the PhD candidate Mariana Gonzalez Lago was the principal contributor to the conception, design, writing and revision of the manuscript:

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List of abbreviations and acronyms

ABARES	Australian Bureau of Agricultural and Resource Economics
CBD	Convention on Biological Diversity
DINAMA	National Directorate of the Environment of Uruguay
DAFF	Australian Government Department of Agriculture, Fisheries and Forestry
DPI	New South Wales Department of Primary Industries
DPIE	New South Wales Department of Planning
EPA	New South Wales Environment Protection Authority
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GEF	Global Environment Facility
GLADA	Global Assessment of Lands Degradation and Improvement
GLASOD	Global Assessment of Soil Degradation
GSP	Global Soil Partnership
INIA	National Agrarian Research Institute of Uruguay
IPBES	Intergovernmental Panel of Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
ITPS	Intergovernmental Technical Panel on Soils
LADA	Land Degradation in Drylands
LDN	Land Degradation Neutrality
MGAP	Ministry of Livestock, Agriculture and Fisheries of Uruguay
MEA	Millennium Ecosystem Assessment
MSA	Multiple Streams Approach
MVOTMA	Ministry of Housing, Land Management and Environment of Uruguay
NRM	Natural Resource Management
NSW	New South Wales
OEH	New South Wales Office of Environment and Heritage
PNA	National Plan for the Promotion of Agroecological-Based Production in Uruguay
SCA	Soil Conservation Act of New South Wales
SCS	Soil Conservation Service of New South Wales
SDGs	Sustainable Development Goals
Soil CRC	Australia Soil Cooperative Research Centre for High Performance Soils
SUMPs	Soil Use and Management Plans of Uruguay
TEEB	The Economics of Ecosystems and Biodiversity
UNCCD	United Nations Convention to Combat Desertification
UNCED	United Nations Conference on Environment and Development
UNFCCC	United Nations Framework Convention on Climate Change
UNEP	United Nations Environment Programme
USLE	Universal Soil Loss Equation
RUSLE	Revised Universal Soil Loss Equation
WBGU	German Advisory Council on Global Change
WWF	World Wide Fund for Nature International
ZNLD	Zero Net Land Degradation

Abstract

Soils, the primary element on which all forms of terrestrial life depend, are now reaching critical thresholds, with one-third of global soil resources moderately to highly degraded. However, they remain “nearly forgotten” in the political domain and almost imperceptible to increasingly urbanised societies, persisting as a “dead matter” of seemingly little interest. This research aims to make visible the political nature of soils and the necessity to bring them into the policy arena to protect the sustainability of their vital functions and processes. To do so, it seeks to understand how framings are purposefully mobilised by actors at the science-policy interface to de/politicise soil issues affecting agenda setting processes and their overall protection. This dissertation presents a novel heuristic device for critical inquiry into soils framings: the Politics of Framing Framework, which combines approaches from political and social sciences, political ecology, and environmental humanities. This tool offers an organising principle in the analysis of framings through the exploration of three dimensions: political ontology, power, and justice. The premise is that by unpacking how these dimensions operate in soils framings, we will be in a better position to understand which visions of human-soils relationships are being actualised in reality and which are being silenced, how power is mobilised in those framings and what notions of justice are implied for guiding action. Using the PoFF, this research analyses how ontology, power and justice: 1) operate in the social construction of soil as a public policy problem in two jurisdictions: New South Wales, Australia, and Uruguay. 2) Their connection with processes of de/politicisation. 3) Their impacts in terms of agenda-setting and policy formulation. The findings show that, first, framings are used at the science-policy interface as strategies of de/politicisation to legitimise policy choices that exclude or include soils into the policy agenda and contribute to shaping public perceptions about their (un)importance. Second, soils’ productivist political ontologies are dominant in the policy arena, but there are nuances. Although the experts tend to share this view with policymakers, there are important differences in their interpretations of its implications. Third, under a neoliberal regime such as that of NSW, depoliticising strategies exclude soils from the policy agenda by

framing them as a non-political and an apolitical issue, reaffirming the status quo. Fourth, the Uruguayan case shows that soil politicisation can be achieved when the government assumes an active role in their protection and framings at the science-policy interface regarding the conservation rationale align.

Keywords: Soils, politics of framing, de/politicisation, agenda setting, public policy