

Outlining a Global Research Agenda for Enabling Effective Rangeland Governance

Lance W. Robinson and Fiona Flintan

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Introduction: The Marginal Position of Rangelands

The potential of rangelands to contribute to agriculture development is marginalized in a number of ways. Definitions land use types often treat rangelands as a residual category—what is left over after everything else (agriculture, urban, woodlands, etc.) has been identified (Sayre et al. 2013). Terminology used in East Africa subtly marginalizes rangelands through the common distinction that is made between “arid and semi-arid lands” and “high potential areas”—the language used assumes, from the outset, that arid and semi-arid lands have little potential. The arguments condemn the environmental footprint of meat consumption tend to ignore the different modes of livestock production and unfairly lumps rangeland-produced meat in with other, unsustainable, production systems. Livestock production in rangelands tends to be very environmentally friendly: for instance, the potential of livestock production in rangelands for sequestering carbon and improving the water productivity of ecosystems is great (Herrero et al. 2009). The discourses around agricultural intensification and its offshoot *sustainable* intensification also tend to forestall consideration of the potential of rangelands. In this discourse, intensification is typically assumed to refer to interventions, usually plot-level interventions, aimed at improving yields from cultivation agriculture. Intensification as a strategy is typically pitted against extensification, confounding two very different characteristics of agricultural systems—intensity (inputs per unit area) and extensivity (the geographical extent over which an individual production unit is typically managed)—and reinforcing the assumption that a system can be either extensive or intensive but not both and that extensive systems can only be intensified by converting them to a different, non-extensive system (Robinson et al. 2015). Investments in rangeland management tend not to accord with assumptions about what qualifies as intensification. Within mechanisms of global governance, the United Nations Convention to Combat Desertification (UNCCD) would seem to be the natural “home” for rangeland issues. UNCCD, however, is the most poorly resourced and least impactful of the Rio conventions (Gisladdottir and Stocking 2005), and rangelands have not had a prominent place in other multilateral environmental agreements.

Many of the scientists and development practitioners who work in rangelands, however, believe that this marginalization needs to change and are confident that rangelands and rangeland management are a potentially effective and fruitful development investment. In Kenya, livestock produced on rangelands account for 13% of agricultural GDP, this without a significant focus on support to the sector from government. Similarly in Ethiopia, from 2005-2011 there was a five-fold increase in livestock exports, most of that derived from rangeland-raised livestock (Wright et al. 2015). However, these kinds of figures, while helpful, are insufficient to make the case.

Making this case to national and global policymakers, however, will require solid and extensive evidence—evidence which at present is too patchy and anecdotal. This paper outlines elements for a global research agenda for enabling effective rangeland management. In doing so, it draws on insights from literature on governance, especially on global environmental governance, to suggest strategies and principles for developing this research agenda.

Making the Case Globally for Rangelands

While, as mentioned above, rangelands have not had a prominent place in global environmental governance, 2016 provided some reason for optimism. A campaign is also underway to declare an “International Year of Rangelands and Pastoralists”. Also, at the second United Nations Environment Assembly, resolution was passed on Resolution 24 at UNEA 2 (2016) on “Combating desertification, land degradation and drought and promoting sustainable pastoralism and rangelands”. Statements in the resolution that pertain in one way or another to research include the following:

- ... United Nations Convention to Combat Desertification to facilitate the sharing of best practices for the development and implementation of strategic frameworks and early warning systems for enhanced disaster risk management, sustainable land management, land restoration and resilience to drought
- ... United Nations Environment Programme, within its mandate and subject to available resources, in partnership with Member States and United Nations agencies and programmes and other relevant stakeholders, including civil-society organizations, to explore whether there are gaps in the current provision of technical support and environmental and socioeconomic assessments....
- ... United Nations Environment Programme, in partnership with Governments, scientific institutions, United Nations agencies, civil society, pastoralists, communities and other relevant stakeholders, to contribute to the strengthening of the science-policy interface on sustainable pastoralism and rangelands.

To build on this momentum, there is a need for a comprehensive research agenda that can make the case for development investments in rangeland management. The research agenda must address three key areas: interventions, context, and results. Research on interventions for rangeland management will aim to mobilize knowledge on *how* to promote rangeland management, including documenting and assessing both the technologies and technical practices for implementing rangeland restoration and management, and the institutional interventions that help to organize and otherwise enable communities and other stakeholders to implement the technical management practices. Exploratory research and collaboration with partners in action research mode is also needed in order to develop and test new approaches. And the both the techniques and the social and institutional interventions should be assessed economically, as investments.

The varying social, political, cultural, economic and biophysical contexts are also important. Different interventions may work differently in different social, political, economic and biophysical contexts, and for both the technical management interventions and the social and

institutional interventions, there is a need to assess and compare which interventions work best in which contexts. Aside from local context, there is also an array of broader factors that have been influencing land use change in rangelands, and that will continue to do so into the future. These factors are themselves changing, and sustainable improvement in rangeland management will require understanding and planning for such drivers.

Research on results needs to establish the outcomes and impacts that investments in rangeland management can produce. This will involve further developing methods for assessment of rangeland condition and carrying out assessments at local, national and global scales. More important than generalized characterization of the state of rangelands, however, will be impact assessment research that aims to establish the effects on rangeland condition caused by particular interventions, whether local management interventions, particular projects in support of rangeland management, or policies. Similarly, there will be a need for socio-economic impact assessments on interventions. Another aspect of research on results that will be important for making the case is assessment of ecosystem services and valuation.

Insights from Governance Theory

Research, particularly research aimed at influencing policies, programs and budget decisions by governments and other large organizations, is not simply a technical exercise of appropriate research design. This paper contextualizes the research agenda summarized above in terms of governance and draws insights from scholarship on governance, especially environmental governance, to suggest strategies and principles for developing this research agenda. The first insight derives from exploration of what *governance* is. In the field of environmental governance, there is now widespread acceptance that *governance* is not the same as *government*. Whereas *government* is a particular set of organizations, *governance* is commonly conceived of a social function or sometimes a *set* of social functions, namely resolving tradeoffs, shaping how power is constituted and used, setting direction and building community (Young 1996; Robinson et al. 2012; Robinson and Makupa 2015). These social functions can be carried out by governments, but are often also carried out by other organizations and institutions outside of government, as well as being directly influenced by a variety of other factors and processes such as values and norms, discourses, information and knowledge, and networks. All of these components interact with each other and result in an emergent governance system (Biermann et al. 2009; Duit et al. 2010). In such governance systems the way in which information flows across levels plays a central role in how that system will develop and in what kinds of policy and others decisions will or will not be made (Robinson and Fuller 2010).

These kinds of insights suggest that it can be advantageous to conceive of a research program as potentially *being part of a governance system*. Rather than conceiving of the research program as being something external that will attempt to influence governance processes from the outside, primarily by providing evidence, it can be understood as already being a component of governance system in question, even if a minor one. This suggests that the linkages and interplay between the research program and the organizations leading it to other components of the governance system will be crucial to its influence in that system. Until now, global efforts on rangelands have been somewhat fragmented. There is a need to find ways to coordinate these efforts and find synergies among them, in part through contributions to a common research effort with some common protocols. Moreover, there is a need to look at institutionalizing the kinds of

research that needs to take place in order to move beyond one-off studies. The UNDP's Human Development Reports and the IPCC's assessment reports are examples that can be studied for lessons.

The second element of this strategy relates to what has been learned about how evidence-based decision making can be promoted. One of the challenges for fostering a pattern of decision-making in which evidence and arguments prevail over power and political bargaining is that the evidence base is hardly there: hence the need for the global research agenda described here. The call in this year's UNEA resolution for the sharing of best practices and for the analysis of gaps in environmental and socio-economic assessments is a step in the right direction. Simply doing to the research, however, is not enough. Ideas of "speaking truth to power" and evidence-based decision-making, and the assumption that if scientists can produce quality research and simply present it to politicians and policymakers then it will be used have of course been criticized as being naïve. On the other hand, the environmental governance literature suggests that the design of governance systems can make the prevalence of argument and evidence-based decision-making more or less likely to predominate over bargaining, for example (Gehring and Ruffing 2008). For example, the separation of different decision-making functions, especially elaboration of decision-making criteria from the appraisal of competing, or contradictory, propositions, can deprive stakeholders of their capacity to pursue parochial interests. In CITES, for example, parties to the Convention agree on criteria for the listing of endangered species, *separately* from the assessments of particular species, thereby making the latter a more evidence-based decision less prone to political maneuvering (Gehring and Ruffing 2008). Global and national assessments of the state of rangelands for example should consider rangelands in relation to other ecosystems, and compare rangelands to those other ecosystems and alternative land uses. *However*, as attempts are made to institutionalize such assessments, perhaps, as in CITES, this should be kept separate from recommendations of what to do. More generally, careful attention needs to be given to where some elements of the research agenda might fit within global, regional or national governance regimes and what role they might play in wisely crafted decision-making procedures.

In developing this research agenda and in contributing to tasks such as the gap analysis called for in the UNEA resolution, the aim should not simply be to build up the missing evidence base. There will certainly be different possible leverage points for the research, some more strategic than others. In searching for such leverage points and considering how the research might shape governance, scholarship on causal influences in governance can be helpful. Young (Young 1999a; 1999b) suggests four broad types of governance regimes—regulatory, procedural, programmatic, and generative—linking these to a variety of possible causal pathways for causality of and on governance. At this stage, it is probably the generative functions where research on rangelands and rangeland governance at local, landscape, and national levels can perhaps try to influence global level governance. "Generative tasks" relate to the development of new social practices, shaping discourses, shaping expectations, and creation of new constituencies and coalitions. The proposed research effort should aim to contribute to discourses and how rangeland issues are framed. Currently, much of the discourse treats rangelands as a problem to be solved. There is overgrazing. They are under constant threat of desertification. This research effort can instead help to represent rangelands as systems having great potential. The shaping of discourses is itself assisted by another generative task: the

development of coalitions. The research effort should attempt to develop a community of people working at national and international levels who can advance the cause of rangelands.

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