



## Book review

**Contested Agronomy: Agricultural Research in a Changing World, J. Sumberg, J. Thompson (Eds.). Pathways to Sustainability Series. Earthscan, Routledge, Taylor and Frances Group, 711 Third Avenue, New York, NY 10017 (2012). 220 pp., US\$ 155.00, Hardback, ISBN: 978-0-415-69806-1; \$34.95, Paperback, ISBN 978-0-415-50714-1; \$34.15, Kindle, ISBN 978-0-203-12844-1**

In an era when science is increasingly politicized (Gouchat, 2012), agricultural scientists are being called upon to produce global public goods that will reduce extreme rural poverty and food insecurity, particularly in Africa (IIASTD, 2009). In this context, Sumberg and Thompson's edited volume, *Contested Agronomy*, provides a framework for agricultural scientists to consider how politics shapes our work. The volume explores the production, validation, communication, and use of agronomic knowledge. Introducing a 'political agronomy' perspective, the contributors investigate the science behind a wide range of hotly contested technical issues: conservation agriculture, biofortification, system of rice intensification, *terra preta*, water management, local knowledge and innovation. They show how epistemic communities have been formed and evolve to demonstrate that normative choices have become embedded in routine agronomic research practices and institutions.

In their introductory chapter, Sumberg, Thompson and Woodhouse identify three developments that have structured the agronomic sciences in the post-Cold War Era: the neo-liberal project, the environmental agenda, and the participatory agenda. The agronomic sciences must now function with reduced funding and limits on the flow of information due to intellectual property rights while seeking new agro-ecological alternatives to the cheap food regime of large-scale external-input intensive farming that threatens agro-biodiversity. Further, in order to simultaneously promote neo-liberal decentralization and respect for rural peoples and their knowledge, agronomists must do this in a participatory manner that challenges their autonomy as professionals. These forces have opened up contestation of the agro-scientific project not only within peer-reviewed journals, but also on the internet and in other public forums. Consequently, competing world views of agriculture can be held up to greater scrutiny. The authors propose that this scrutiny can best be appreciated through the lens of political agronomy.

With varying emphasis and success, each of the chapters highlights how a particular agronomic problem is framed through the investigation of contextual assumptions, methods, forms of interpretation and the values that different groups bring to the table. This framing sets the stage for narratives that express the perspectives of dominant epistemic communities. Within the context of these communities, research agendas and priority setting can be seen as part of a rational technical process, but it is by examining the interplay of power and politics that we determine which epistemic community will be influential. The various authors point out the importance of collaboration, partnerships and interdisci-

plinarity for innovation. They ask, what are the motivations and incentives for these partnerships.

The second (Andersson and Giller) and third (Erenstein) chapters analyze the growth and spread of Conservation Agriculture (CA) in southern African and in the Indo Gangetic Plain, respectively. These chapters combine to provide a full range of the potential of political agronomic analysis. Andersson and Giller recount how, on the basis of donor relief and recovery programs during Zimbabwe's political and economic crisis in the 1980s, CA evolved from a science-based solution for some large scale farmers into a faith-based adaptation for smallholders. Policy promotion and resource mobilization by the donor community combined with a faith-based NGO's evangelical message to promote a 'mindset-change' despite technical difficulties for smallholder adoption. In the Indo-Gangetic Plain, Erenstein explains how the CGIAR Rice–Wheat Consortium collaborated with farmers and agricultural machinery manufacturers to advance a CA production system. The narrative promoting CA invoked the liberalization of the Indian economy as a response to stagnating productivity thereby mobilizing many powerful actors. Once the pathway was set in both cases, the epistemic communities became self-reinforcing despite the lack of scientific evidence documenting impact of the complex technological package. The combination of a consolidating epistemic community and political economic arguments powerfully document the political agronomy approach.

The remainder of the book presents a range of cases in no apparent order. Chapters shift from anthropogenic dark earths (*terra preta*) to biofortification to the epistemology of water in African agronomy. Each chapter uncovers another aspect or dimension of political agronomy, but the arguments don't follow any parallel logic and there is no synthetic chapter tying them together. Nevertheless, the chapters are well written and provide insights often kept from view when these subjects are addressed within their epistemic communities. A chapter (Pollini) on agricultural intensification investigates how levels of abstraction can be used to support competing perspectives (Malthusian and Boserupian theses) through comparison of universal 'natural laws' with 'patterned regularities in the domain of the actual' (defined as combinations of natural laws operating simultaneously). Chapters on the System of Rice Intensification (SRI) by Maat and Glover and on a participatory case study on the Folk Ecology Initiative in Kenya by Ramisch provide useful insights into how this approach addresses issues along the continuum from technology transfer to local innovation. These chapters demonstrated that there is a good deal to be learned from research based on farmer epistemic premises.

While the book's theme addresses the significance of epistemic communities on the work we do as agricultural scientists and this can sometimes be unsettling to our sensibilities, perhaps the most jarring chapter is the next to last one on the making of agricultural research success stories. Sumberg, Irving, Adams, and Thompson demonstrate how to analyze, and consequently, how to write success-making stories about agricultural research demonstrating its

value to donors and research funding communities. Their approach is reflexive and addresses implications about how these stories can be used as self-fulfilling prophecies. On one hand, simple solutions are easily measured and these narratives more easily told. On the other hand, it is harder to measure success in research on complex systems. Consequently, the simple, short-term research programs will be more and more likely to be requested as accountability is more and more frequently being scrutinized.

## References

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