

Book review

Systems practice: How to act in a climate-change world, R. Ison. Springer, London (2010). 340 pp., Price €74.85, Softcover, ISBN: 978-1-84996-124-0.

As the saying goes: don't judge a book by its cover... or in this case, by its title. Even if the title does not reveal a link to agriculture, the content is definitely highly relevant to agricultural researchers. The book is about what it means to put systems thinking into practice, it is an open invitation to reflect on "what do we do, when we do what we do". Its strength is that it offers detailed guidance on how to proceed in this reflexive practice, and given that Ray Ison has a background in agricultural research, his writing includes insights from that work.

Most readers are well aware of the advantages of taking a systems-approach, aware that studying any one element in isolation can be problematic, as interactions are often crucial in understanding processes and behaviors of agricultural systems. However, while the term 'systems' is frequently used, reflection about its implications are much scarcer. This is why I think the book is so valuable: it can be read as an invitation to clarify what we mean by agricultural system, and what systems thinking entails for our research practice.

In this book, Ray Ison points out that agricultural systems are less 'real structures' than intellectual constructs. Our models are heuristic devices that help us understand the complex interactions between the natural and the social worlds. As such, an agricultural system does not exist independently of the researcher's process of inquiry. Realizing this is particularly useful in situations characterized by complexity, interdependencies, and involving multiple stakeholders. In such situations, it seems fruitful to complement formal modeling with approaches that enable concerted action and allow for a co-evolution of practices. The book thus invites the reader to expand his or her conceptual repertoire by understanding e.g. agricultural systems as dynamic and adaptive, as permeated by uncertainty and discontinuities, as relational and co-constructed.

The book comprises 13 chapters which are grouped in four parts. Part I sets the scene by explaining the rationale of the book. Part II – which makes up nearly two-thirds of the book – details what is meant by systems practice, building on the metaphor of juggling four balls. Part III identifies constraints to systems practice – e.g. the implications of our 'projectified' world – and clarifies what a systemic inquiry could be. Part IV concludes by raising the awareness of the impact of what individuals, institutions or societies choose to value. Ison draws our attention to how values affect our choices in addressing societal challenges, e.g. our choice between doing the same things more efficiently or doing different things.

Since Part II is the core of the book, I will briefly summarize the key points Ison is making, interpreting them in the context of researching agricultural systems. To convey the dynamic, fluid and adaptive approach implied by systems practice, Ison uses the metaphor of juggling. The juggler (which I will understand as a researcher) simultaneously needs to pay attention to four 'balls', i.e. four processes. The first ball is about being, i.e. the researcher taking responsibility for her epistemological position. The researcher is invited to become aware of the paradigms upon which she bases her research, and how previous experience and the current institutional setting shapes how she chooses to approach a specific research issue. The second ball is how a researcher engages with the situation (i.e. the research question). Many choices are made when framing the 'agricultural system' and more specifically the research question. As many of these choices are implicit, researchers may not always be aware of making them, although they will affect how the research proceeds. For example it will make a big difference whether a problem is framed as a 'wicked problem' (sensu Rittel and Webber 1973) or whether it is framed as a 'tame problem' with well-defined and stable causal relations. The third ball is about context, i.e. managing the relationship between a particular systems approach and the research issue being studied. One of the issues to become aware of here, is addressing the question of purpose of the agricultural system being studied: is it to achieve a specific goal or objective, or is it to learn and adapt? The fourth ball is about managing the overall performance, by being both systematic and systemic, by coping with ambiguity

and connectivity. Given pervasive change in the situation, the method and the researcher, it helps to be comfortable with provisionality. This requires balancing between too much control leading to the inability to respond to change, and too little control leading to the risk of disintegration of a research project. It does not seem far-fetched to see how researchers of agricultural systems, as jugglers, may benefit from being aware of these four processes, aware of how we shape them and how they shape our research.

The whole book is rich in illustrations, case studies and examples that convey how the abstract principles can be put into practice. There is ample discussion of the contributions of various systems thinkers, such as Ackoff, Checkland, Churchman, Schön and Ulrich. The book is easy to read and gripping, making systems practice understandable to a wide readership. The book is especially recommended for those who want to apply systems thinking in their work, be it research or change management.

This book about systems practice is thus an invitation to raise our epistemological awareness. While the book is not specifically written for agricultural systems, it is easy to transfer the concepts to agriculture and farming. This allows the reader to become aware of the many (implicit) choices made, and how they affect both our understanding of agricultural systems and the outcomes of our research. Through his description of what it means to engage in systems practice, Ray Ison provides the reader with an alternative to 'business as usual', pointing out how it can strengthen our capacity to tackle the 'wicked' situations that we so often encounter in the real world.

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