



PRACTICE ABSTRACT NR. 12

Systems and complexity in agriculture

'Systems' and 'complexity' are both everyday terms but also have a more specific meaning within research and development on complex situations such as agriculture. Systems thinking in practice is a way of thinking about and acting in the world through the use of holistic representations of what we, individually and/or collectively, perceive about situations, such as relationships between farmers, advisers and research organisations. Systems thinking largely views complexity as being a mix of rational and emotional responses to messy situations. In contrast complexity science often uses quantitative models to represent large, rational, non-linear, dynamical systems that exhibit unpredictable behaviours. Agricultural policies and practices are shaped by histories and traditions. Some policies and practices are developed through trial and error and not always formally recorded, while some are based on experiments and structured scientific observations and systematically recorded in reports and journal articles. Systems thinking in practice complements the scientific approach by looking at policies and practices in their contexts in order to understand them, by recognising important connections between people, events, and ideas and by taking account of multiple perspectives. One way to do this is for stakeholders to co-develop diagrams involving words, images, symbols and lines to represent multiple perspectives on systems of interest. In the making of such joint diagrams differing viewpoints can emerge, conflicts can be discussed, and the expert knowledge of different members can be harnessed.

AUTHOR(S):

Andy Lane
Open University

CONTACTS:

andy.lane@open.ac.uk

www.open.ac.uk

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ADDITIONAL INFORMATION

This Practice Abstract is derived from one of 27 Theory Primers that support the conceptual framework which underpins the AgriLink project. Each Theory Primer introduces a specific theoretical topic in the conceptual framework and is intended primarily for academic readers. The Practice Abstracts derived from each Theory Primer aim to make these topics more accessible and understandable to a wider non-academic audience.

The AgriLink Conceptual Framework and all Theory Primers can be found here: <https://www.agrilink2020.eu/our-work/conceptual-framework/>

The Systems and complexity in agriculture Theory Primer can be found at: <https://www.agrilink2020.eu/wp-content/uploads/2019/02/AgriLink-conceptual-framework.-Theory-Primers.26.pdf>



ABOUT AGRILINK

AgriLink is a multi-actor project funded by the European Union's Horizon 2020 research and innovation programme. It brings together 16 partners from 13 countries, including universities, applied research institutes, advisors and consultants from public organisations, private SMEs, a farmer-based organisation and specialists in communication and distance learning.

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www.agrilink2020.eu
twitter.com/agrilink2020
pierre.labarthe@inra.fr

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All the Practice Abstracts prepared by the AgriLink project in the EIP-AGRI common format can be found here: <https://ec.europa.eu/eip/agriculture/en/find-connect/projects/agrilink-agricultural-knowledge-linking-farmers>