

Towards a systemic research methodology in agriculture: Rethinking the role of values in science

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Abstract

This paper takes some steps towards developing a systemic research methodology – a general self-reflexive methodology that forms a basis for doing wholeness-oriented research and provides appropriate criteria of scientific quality. From a philosophy of research perspective, science is seen as an interactive learning process with both a cognitive and a social communicative aspect. This means, first of all, that science plays a role in the world that it studies. A science that influences its own subject area, such as agricultural science, is named a systemic science. From this perspective, there is a need to reconsider the role of values in science. Science is not objective in the sense of being value-free. Values play, and ought to play, an important role in science – not only in form of constitutive values such as the norms of good science, but also in the form of contextual values that enter into the very process of science. This goes against the traditional criterion of objectivity. Therefore, reflexive objectivity is suggested as a new criterion for doing good science, along with the criterion of relevance. Reflexive objectivity implies that the communication of science must include the cognitive context, which comprises the societal, intentional, and observational context. Taking reflexive objectivity as a demarcator of good science, an inclusive framework of science can be established. The framework does not take the established division between natural, social and human science as a primary distinction of science. The major distinction is made between the empirical and normative aspects of science, corresponding to two key cognitive interests.

Keywords: agricultural systems research, context, holistic, objectivity, organic farming, philosophy of science, reflexive, reductionistic, research methodology, values

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