

CITIZEN SCIENCE IN RURAL AREAS IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

Abstract

This study addresses citizen science initiatives in rural areas and their outcomes for sustainable development. The negative effects of climate change and resource shortages challenge humanity to explore and research alternative livelihoods and lifestyles. The Sustainable Development Goals (SDGs) are a normative directive for a socio-ecological transformation. To define, monitor and successfully implement the SDGs, society is dependent on robust knowledge, comprehensive local data and timely action. However, the fulfilment of these tasks is beyond the means of scientific institutions. Especially in rural areas - e.g. Mecklenburg-Western-Pomerania – with less scientific infrastructure, data, knowledge and action must come from other groups in society. Rural areas profit from the opportunities in a knowledge-based society. Independent and participatory citizen science initiatives produce, disseminate and take up knowledge for sustainable development. This study provides an approach to systematically exploring and mapping citizen science initiatives, in order to make them fruitful for sustainable development efforts. It pays tribute to the understanding of citizen science as a valuable approach to robust knowledge production for a socio-ecological transformation.

The focal point of the thesis are rural citizen science initiatives that contribute to future questions and promote competencies for sustainable development. The objective is to map knowledge producing initiatives outside academia in Mecklenburg-Western-Pomerania. The thesis offers insights into selected initiatives as a knowledge base for impact oriented participatory research approaches – e.g. real-world laboratories - and science communication.

In its theoretical part, the thesis explores different approaches of participatory and democratic research with focus on actors, their roles, research results and outcomes. The research process and the structural components of the approaches are compared from the perspectives of the structuration theory by Giddens and the actor-network-theory by Latour. The actor-network-theory supports the understanding of the development and interaction of participating actors. The structuration theory supports the understanding of the mutual influence between system and action.

Quantitative data on scientific and sustainability-oriented initiatives is collected through existing online databases and desktop research. Participatory and autonomous citizen science initiatives are then mapped in relation to professional scientific institutions. This is completed by field research on participatory and autonomous citizen science initiatives in Mecklenburg Switzerland and Northwestern Mecklenburg. For this purpose, the author conducts narrative interviews and participatory observation and subsequently carries out a qualitative content analysis. The explorative, qualitative research design allows a study on research processes and frameworks. Furthermore, theories of change are traced through the identification of generated research results, practical solutions and acquired competences.

The findings will show approaches of lay people to research on e.g. local history, bee research, aesthetic research, agricultural research, energy research, traditional handcraft and mapping. The results will support the understanding of voluntary commitment in knowledge processes in rural areas and support efforts to the SDGs.