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Preface

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Editorial

Preface

This Special Issue of NJAS – Wageningen Journal of Life Sciences contains a coherent set of first reports of research carried out within the International Research and Education Funds (INREF) program Responsible life-sciences innovations for development in the digital age: Environmental Virtual Observatories for Connective Action (EVOCA), funded by Wageningen University and Research and its research partners. This program explores whether and how the increased availability of information and communication technologies (ICTs) may be leveraged to support collective management of crops, water resources, livestock, wildlife and (human, animal and plant) diseases in several countries of rural Africa. In relation to this, the programme has a special interest in the potential of new ICT to support the co-creation of relevant knowledge by making community-based environmental monitoring part and parcel of citizen science activities that add value to available information. In addition, it is interested in exploring whether increased connectivity may support new forms of collective mobilization (labeled 'connective action') to address environmental challenges. The program aims to develop and test digital platforms that can support such functions in close collaboration with stakeholders and users across six case studies in Ethiopia, Ghana, Kenya and Rwanda.

The purpose of this Special Issue is to disseminate the results of the initial phases of the research projects during which diagnostic studies were carried out on how life-science knowledge, digital technologies and responsible innovation concepts can be leveraged in development contexts to build inclusive virtual platforms for environmental information that enable connective action for addressing development challenges in six case-studies related to crop, water, health and wildlife management.

The research papers have been first-authored by PhD candidates active in this INREF program and co-authored by their supervisory teams. The teams frequently met during workshops in Ghana and in The Netherlands to enable in-depth discussions and thorough conceptualization.

The first authors were given the assignment to provide two papers per case study that together would cover the following content:

a Unravelling the societal problem in bio-physical and social terms focused on understanding the interaction between people and their environment, and with special emphasis on practices, conditions and organizational forms that (re)produce the problematic situation;
b Assessing how problematic practices relate to issues of information, interpretation, knowledge and connectivity, and how these intertwine with the effectiveness of existing forms of organization, collective action and/or problem solving;
c Generating preliminary hypotheses about where in the problematic situation EVOCA-type platforms could make a difference, based on an assessment of the stakeholders and interactions that may be targeted to drive positive change;
d Providing details about the useful features that an EVOCA might have in terms of data collection, data processing, information sharing and the incentive systems needed to make an EVOCA feasible and sustainable;
e Discussing the process required to further design and test the EVOCA from a responsible innovation perspective, including attention to inclusion of stakeholders, remaining questions and the manner in which desired effects, risks and unintended consequences arising from EVOCA use may be monitored and assessed.

These research papers, 11 in total, are preceded by a general introductory paper, which outlines the EVOCA program, the general approach of the diagnostic studies and their common characteristics and differences. A concluding paper compiles the lessons learned from the diagnostics and contains a general analysis across cases, partly based on the analytical frameworks of the political economist Elinor Ostrom.

The Guest Editors of this Special Issue would like to acknowledge the hard work of the PhD students in reporting their diagnostic studies, in what for many of them was their first attempt to write a scientific article. This effort certainly contributed to the further conceptualization of their individual research projects. The papers also contain very valuable lessons how to initiate a research program on such EVOCAs in developing countries where the use of mobile phones has revolutionized communication, data collection and resource management.

Finally, the Editors are much indebted to the reviewers for their critical reviews of the papers of this Special Issue and for their support to the first authors. Their critique and suggestions have greatly improved the papers.

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