Out – up – and Deep Scaling in a Reverse Auction: Experience from the Foseza Project

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Abstract

Our objective was to identify community members in a remote rural area of northern Zambia willing to implement an agricultural innovation on their personal plots. We designed a reverse auction of banana seedlings as an intervention. The existing agricultural system is mainly based on Cassava and diets consists mainly of carbohydrates. Fruits and vegetables, including banana, are rarely cultivated with hidden hunger as a result of this deficiency situation. A reverse auction is a suitable instrument for revealing the risk attitude of individuals. We assume that low bids indicate an increased willingness to take risks so that winners of the auction may become early adopters supporting change. A network analysis will accompany the socio-economic experiment and different scaling strategies can be simulated with the help of an agent-based model. In the experiment, all community members could make an offer. The winners received 5 banana seedlings, training how to plant and propagate and all get the amount of the first rejected offer, the first half at the beginning of the term, the second half after successful performance of the contract. The experiment shows certain scaling outcomes: up-scaling options of the applied tool were identified at district and provincial level; one out-scaling activity was the dissemination of suckers to non-winners; deep-scaling could be observed by the demand of advanced training, demand of other species and the revealed willingness to integrate trees in the farming system. However, problems have also been identified which need to be addressed at several levels of the agricultural system, including conflicts with the traditional authorities that exploit high rents and thus weaken the potential of innovation, but also practical problems with irrigation, access to inputs, improved varieties and marketing options.

Keywords: Agent-based modelling, participatory action research, reverse auction, social network analysis

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