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Climate Change Awareness and Smallholder-Oriented Constraints and Opportunities in the Upper Rift Valley in Ethiopia

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Abstract

Climate change, its variability, interlinkages and effects on agriculture are manifold and will influence Ethiopia significantly. While climate model projections show increasing temperatures throughout the year for the entire country, precipitation projections are less conclusive, both in temporal as in spatial scale. Unreliable rainfall, growing water scarcity, failed harvests and the introduction of new pests are some of the factors that increase pressure on producers, especially small-scale farmers. Currently worsened by El Niño, these developments threaten wide parts of the country with famine. This paper presents results of a field study that has been conducted in September 2015 among vegetable growers and associated stakeholders to examine climate change awareness, as well as smallholder-oriented constraints and opportunities in the Upper Rift Valley in Ethiopia. The area is characterised by large surface water bodies, which are used for irrigation and therefore allow for the establishment of horticultural production. Through semi-structured interviews of stakeholders from government level to producers the importance of climate change, major challenges and already employed mitigation strategies were assessed and substantiated by literature research. In the course of the study, opportunities were identified that allow for decreasing the ramifications of climate change. Concerning government engagement, most actions are inadequate and fail to address the important issues for farmers, such as declining water resources, soil protection, climate information, production system adjustments, appropriate germplasm, phyto-health measures, market infrastructure and land tenure system. For farmers, restricted access to relevant knowledge, ignorance of water use efficiency, unsustainable, non-adapted farming techniques and little diversity of too water intensive crops are the biggest obstacles. Forward-looking research and institutional responsibility are absent. Irrigation is considered to be the most important measure for mitigating the effects of climate change, though not based on long-term hydrological evidence and prevailing widespread overuse of available water resources. As long as water resources are perceived to be available ad infinitum, irrigation will be seen as the sole mitigation strategy, prohibiting urgently required innovation.

Keywords: Constraints, enabling environment, Ethiopia, horticultural production, irrigation, mitigation, opportunities, Rift Valley, smallholder farmers, water