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50

Adaptation to Climate Variability and Change for Improving Agricultural Productivity and Food Security

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Foreword

Agriculture is crucial for the world economy in general and for developing countries in particular, providing the main source of rural employment in addition to food security. The impending climate change reflected in an increase in average temperature and shift in rainfall pattern are challenging farmers, threatening the lives of 800 million the world over due to risk of hunger and malnutrition.

Agriculture in Africa and Asia is poor in infrastructure, including lack of social safety net, affecting marginal and small farmers as their lands are subdivided and fragmented with limited access to modern agricultural inputs and technology. In this monograph, findings of the study on adaptation to climate vulnerability and change in Africa and Asia highlighting on Uganda and India are presented. The impact of climate change on agriculture, adaptation strategies, and institutional framework in fostering adaptation for food security and improving livelihood of agriculture-dependent communities are analysed and discussed. In Uganda, and in most of Africa, smallholder farmers continue to bear the brunt of climate change due to incomplete, under-resourced and fragmented institutional framework, low levels of adaptive capacity, incompetency of local government, and ad hoc and donor-driven project-level approaches. While food security in Africa oscillates between hope and despair, in Asia it oscillates between monsoons and markets.

Climate change is affecting agricultural productivity and despite adaptation strategies of crop improvement and changes in crop management, the poor and vulnerable communities are still to be benefited. This calls for social and economic inclusion in the design and implementation of adaptation mechanisms backed by sustainable agricultural intensification systems, provision of climatic data and information to farmers, revitalizing irrigation infrastructure, and improving agricultural R and D. Engaging farmers as partners in the adoption of modern agricultural development and technology is the crux of inclusion.

This calls for need to adopt and/or enhance policies and investments for augmenting rural income among the masses. The provision of weather-based crop insurance, improving farmers' resilience through social protection, agricultural market governance and value chain development are crucial. This requires an appropriate balance between public-private sector efforts and incentivisation of marginal and small farmers. Installation of weather-forecasting equipment, early-warning systems, capacity building of farmers

to enable them to identify climatic conditions and implement climate change adaptation strategies locally are crucial.

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