

## Speaker Summary Note

**Session:** Building Resilience by Innovating and Investing in Agricultural Systems

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**Title:** **Priority investments for agricultural research to enhance resilience of poor small-scale farmers in Africa**

- African agriculture: Key challenges and the need to build resilience of poor small-scale farmers
- Need for research to spur innovation for enhancing resilience of poor small-scale farmers
- Priority areas for investments to build resilience
- Investments to mitigate and/or adapt to key challenges and shocks for enhanced resilience
- Adaptation for Future Demands in African Agriculture (AFDA)

African agriculture is dominated by small-scale farmers who operate in complex agricultural production systems characterized by very low levels of productivity. They are confronted by several challenges that include but not limited to inadequate access to improved agricultural inputs, limited access to output markets and are highly vulnerable to the vagaries of climate change. They also have limited access to improved agricultural technologies and innovations and are highly susceptible and less resilient to frequent crises and shocks. Innovative solutions lie in agricultural research. Agricultural research plays a key role in fostering innovations and advancing technologies that build the resilience and enhance the efficiency, sustainability and profitability of small-scale farmers.

Given resource constraints, there is need for trade-offs to focus research in priority areas that enhance the productivity, competitiveness and resilience of small-scale farmers in Africa. Environmentally and economically resilient agricultural production systems will develop from a range of innovations including genetic improvement, resource use efficiency, integrated pest management, reduced post-harvest losses and risk management strategies. The targeted investments to increase the economic resilience of vulnerable small-scale farmers in Africa include the following (but not limited) areas of research:

- Climate resilience research (i.e. climate smart agriculture)
- Research to develop improved drought and pest resistant crop varieties and drought and disease resistant animal species
- Research in improved crop and livestock production techniques (e.g. Integrated pest management, mixed crop-livestock production systems)
- An assessment and inventory of existing indigenous knowledge and practices in the contest of climate change and resilience.
- Research in environment and natural resource conservation (e.g. water shed restoration, community forest and range land conservation, enhancement and protection)
- Biotechnology research
- Research in eco-tourism and community resource conservation and preservation

Apart from investments in research to generate technologies that help build resilience, there is need for scaling up/out proven technologies, approaches and best practices as well as building the adoption capacity of small-scale farmers. Building resilience also requires stimulating investments in research that enable small-scale production systems to mitigate and/or adapt to key challenges and shocks. This enables them to raise productivity, gain access to markets and become sustainable.