**Key Messages from CTA-WUR ACP/EU Think Tank GCARD2 Side-Event on Partnerships for Research, Capacity Building, Innovation and Foresighting: Managing Water for Agriculture and Food in ACP countries**

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**Background:**

The ACP-EU Think Tank reflected on six cases to arrive at the following key messages as they concern managing water for agriculture and food in the African Caribbean and Pacific (ACP) Group of States. These projects included: the EAU4Food cooperative research project led by Wageningen University and Research Centre; the Caribbean Institute for Meteorology and Hydrology twin projects – Caribbean Water Initiative (CARIWIN) and Caribbean Agro-meteorological Initiative (CAMI); the System of Rice Intensification (SRI); the Caribbean Industrial Research and Development Institute's joint FAO project on rainwater harvesting; the University of the Pacific capacity building Future Climate Leaders project; and the Malawi experience in implementing its national water policy and water development programme, which focused on the role of gender and youth in improving water resources management.

**The key messages to GCARD2 are as follows:**

1. Foresight – Successful implementation of strategies for 'green growth', sustainable production, food security and economic development in the face of a changing climate must consider water availability and consumption as not only central to finding solutions for these challenges, but also, within the broader context of land resources management and agro-ecological sustainability, consider whole river basins or catchment areas as the locus of analysis and action. Solutions should be sought not only in terms of present or prior understandings but with a forward look, framed in a coherent manner and using an innovation lens that supports 'outside the box' thinking. In the context of Africa, the Caribbean and the Pacific, rainfed agriculture is still prominent and will remain so in the future, and this must be factored into decision-making processes.

2. Innovation – Initiatives are needed to identify novel business opportunities that will create jobs as well as profit, and build the wealth of, local people within the framework of 'green growth' strategies. Open innovation processes which involve communities and build on the existing knowledge of farmers, women and youth would improve water and land management.

3. Climate change – National and regional hydro-meteorological services are critical institutions for helping countries become and/or remain food and water-secure, particularly given the changing climate. Planning and decision-making in ministries and agencies should be informed by the best possible meteorological and hydrological knowledge. Building capacity for these services and strengthening collaboration between actors in the agricultural sector is one of the strategic ways that countries can position themselves to deal better with adaptations to climate variability and change. Early warning

systems (EWS) for drought and precipitation, monitoring of other rainfall-related phenomena and integrated national water information systems are key policy and decision-making support tools for water management. The World Meteorological Organisation is considered as a key partner at national and regional levels as it proceeds with the implementation of the Global Framework for Climate Services.

4. Research – Priorities for the ACP region include research on: minimum amounts of water needed for sustainable production systems; rates of soil nutrient depletion; resilience of farming systems under climate stress; and plant/root/soil/microbiome interaction across agro-ecological zones. National universities and research organisations have a major role to play in addressing these research areas, but since expertise is limited, there should be networks for collaboration within and among countries. Approaches to maximize water use efficiency should be trans-disciplinary and adopt holistic approaches to the study of soil physics, soil biology, plant physiology and agricultural practices at field scale. Economic studies of various options are also needed.

5. Capacity Building – There is need to develop new knowledge and new paradigms: (i) for what is termed the 'new agronomy', giving more weight to factors of soil biology and microbiology; (ii) for crop modeling which integrates micro-climatic factors; (iii) for climate-variability and change science; and (iv) foresighting which is embedded in the local/national context.

6. Partnerships which include national, regional and international organisations are essential. Universities should be integrated in the partnerships for generating, and up and out-scaling, new knowledge, learning and foresighting and for building future capacity.

**The Way Forward**

The ACP-EU Think Tank committed to producing and disseminating a policy paper on enhancing research and innovation to enable green economic growth in the ACP region, which builds on lessons learned and that provides clarity on the inter-related complexities of water use efficiency, climate change, integrated natural resources management, ecological sustainability and societal aspects.

The ACP-EU Think Tank committed to strengthening collaboration, information and knowledge exchange and the building of partnerships, to advance the science and innovation agenda in the ACP region.