



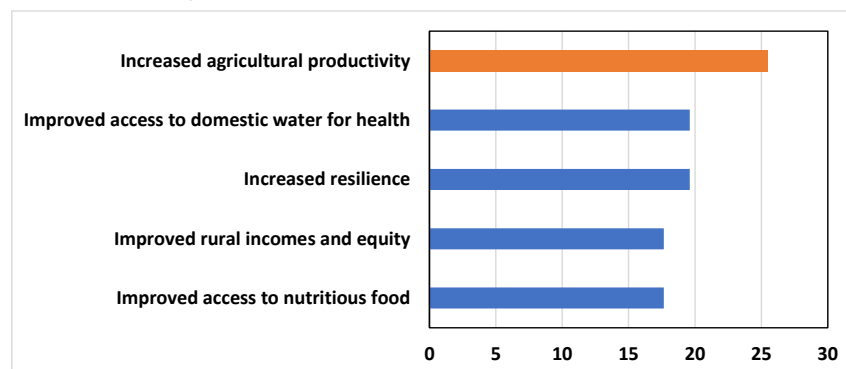
Transforming Food Systems from the Ground Up: The Potential of Groundwater in Achieving Food Security and Prosperity in Africa

Organized by the African Ministers' Council on Water (AMCOW) with support from the International Food Policy Research Institute (IFPRI) and the CGIAR Water, Land and Ecosystem (WLE) Research Program and with participation of the Ministry of Agriculture, Water and Land Reform, Namibia, and the Ministry of Water and Environment, Uganda, and the International Water Management Institute (IWMI).

Africa's food security and nutrition are under severe threat from climate change. The variability of food production is increasing rapidly, and net food import dependency is on a track to exceed 50% by 2050. Without rapid change to food systems, Africa's poorest consumers will suffer reduced access to nutritious food. This event discussed the role that accelerated groundwater development can play in supporting food production and addressing the impacts of climate variability and change. It showcased the importance of water resource development, particularly groundwater, for achieving food systems transformation in Africa.

1. Groundwater development in Africa is a key component of food systems transformation

Figure 1: Poll: How is accelerated groundwater development in Africa linked to food system transformations?



Participants noted that, among the five action tracks that frame the United Nations Food Systems Summit (Ensure access to safe and nutritious food for all; Shift to sustainable consumption patterns; Boost nature-positive production; Advance equitable livelihoods; and Build resilience to vulnerabilities, shocks and stress), **groundwater's key linkage to transforming food systems in Africa is through increased agricultural productivity and year-round incomes for farmers that will increase their**

resilience. This is followed by groundwater's role in improving overall water security, including for drinking, cooking, and sanitation, which are also central to food systems transformation (Figure 1).

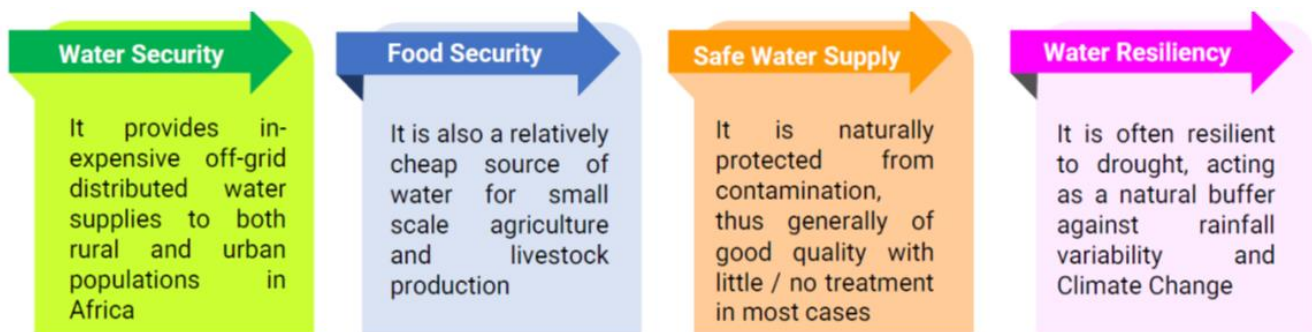
2. The African Ministers' Council on Water has key roles in supporting sustainable groundwater development in the region

The AMCOW Pan-African Groundwater Program (APAGroP) has been developed to increase water and food security and improve safe water access and water resiliency, and as such, directly contributes to Africa's food systems transformation (Figure 2). Bertram Swartz, Deputy Director, Ministry of Agriculture, Water and Land Reform, Namibia, as well as Callist Tindimugaya, Commissioner for Water Resources Planning and Regulation, Ministry of Water and Environment, Uganda, noted that increased national food production in Africa is critical and can be accomplished with increased groundwater development, as long as renewable groundwater resources are available. Participants noted that surface and groundwater

resources need to be managed jointly, and that “we can only manage what we measure,” suggesting a greater role for AMCOW in supporting and rolling out country support tools on groundwater management, and national ministries in undertaking groundwater resources assessments and capacity development.

As Paul Orengho, Program Manager, AMCOW, mentioned, “If you work in the water space, you contribute to food security.”

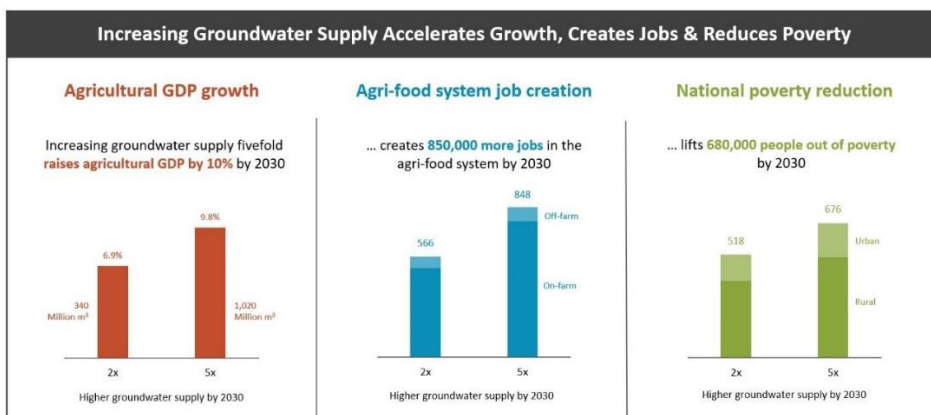
Figure 2: AMCOW APAGroP: Opportunities from accelerated groundwater development



3. Groundwater development can grow agricultural GDP, create jobs, and reduce rural poverty

To support African national groundwater development, it is important to engage with Ministries of Finance. Economy-wide modeling of accelerated groundwater development can support engagement with finance experts. James Thurlow and Angga Pradesha of IFPRI presented preliminary results for Uganda using an economy-wide simulation model that considered water directly. They find that doubling groundwater development sustainably in the country could increase agricultural GDP by 7%, increase employment by 0.6 million, and lift more than half a million people out of poverty by 2030. A stronger commitment to increase groundwater development, represented by a five-fold increase, could increase agricultural GDP by 10%, create 0.9 million jobs, and lift 0.7 million people out of poverty by 2030 (Figure 3).

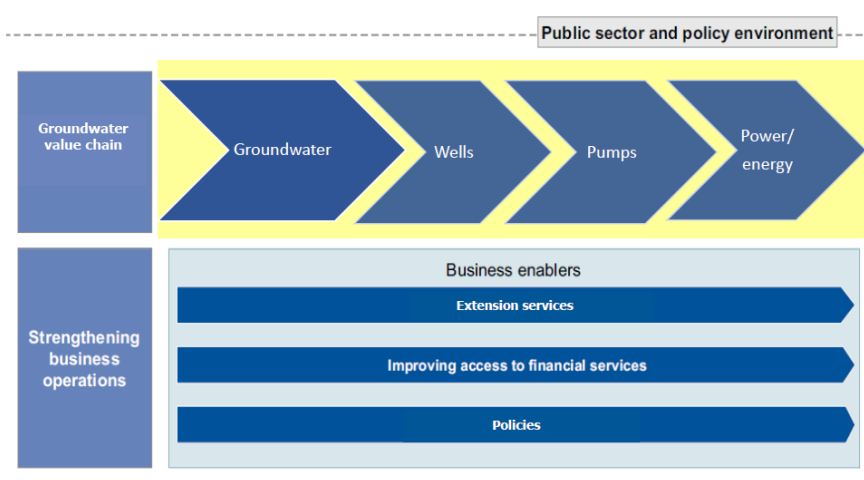
Figure 3: Impacts of increased groundwater development in Uganda on economic and food systems indicators



Source: Preliminary Uganda RIAPA model results

4. Sustainable groundwater development requires a comprehensive groundwater value chain and complementary services

Figure 4: The groundwater value chain

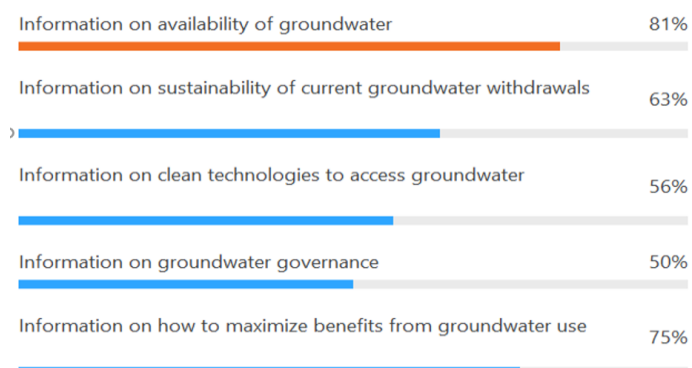


Karen Villholth of IWMI presented on Africa’s large diversity of prospects and tested approaches to groundwater development for food production, in terms of both hydrogeological conditions and socio-economic context. There is no one-size fits all. She noted that **successful groundwater development requires not only a groundwater value chain (Figure 4) that links groundwater with well developers, energy sources, and pump providers, but also complementary agricultural extension services, financial services, and policies to in-**

crease equity and ensure sustainability of groundwater access and use.

5. Sustainable acceleration of groundwater development requires more information and support

Figure 5: Poll: What additional information do you need for accelerated groundwater development in your country and region?



While there is strong agreement regarding the potential to further develop groundwater in Africa, development up to now has been slow and many questions remain. In particular, the audience felt a need for more information on the overall availability of groundwater resources in the region (81%), followed by information on how to maximize the benefits from groundwater use (Figure 5).

AMCOW, in partnership with Member States and other collaboration partners, has a clear role in all these areas.