

## ***Groundwater for Food Security (GFS) Consortium***

### **The challenge**

One billion people suffer from starvation. Worldwide, malnutrition is declining but not in Sub-Saharan Africa. Here, agriculture is jeopardized by insufficient and irregular water availability, low inherent soil fertility and market volatility. Farmers experience great risk due to high rainfall variability and by geohydrological factors hampering soil moisture storage in the unsaturated zone. Lack of soil moisture destroys crops during dry spells and withholds farmers from investing in improved production methods.

### **The ambition**

The *Groundwater for Food Security (GFS) Consortium* provides science-based, location specific, practical, low-cost, long-term, solid and sustainable solutions for semi-arid and arid regions facing water and food insecurity challenges. The Consortium aims to be a significant international player on the interface of sustainable (ground) water supply for a decisive step forward in food production through cutting-edge scientific knowledge, expertise and global soil and water information.

### **The knowledge**

Potentially, there is more water available for food production in arid and semi-arid regions than commonly known. By storing surplus rainwater in the soil or in shallow aquifers, by using groundwater resources in river beds, and by directing that straight to plant roots, crops may survive dry spells. Once water supply would be secured farmers should make food production more efficient and more profitable. Addressing these issues requires cutting-edge knowledge from a wide variety of scientific disciplines. Such knowledge is provided by the world's leading universities and research centres in The Netherlands as represented by the Consortium members.

### **The Consortium**

The *Groundwater for Food Security (GFS) Consortium* emerged from a brainstorm session in pursuit of the International Year of Planet Earth, in October 2011. It includes representatives of three Dutch universities, research centres and foundations: ISRIC (Prem Bindran), Wageningen University & Research centre (Jochen Froebrich and Raymond Jongschaap), Delft Technical University (Huub Savenije), UNESCO-IHE (Pieter van der Zaag), IGRAC (Frank van Weert), Twente University (Arjen Hoekstra) and the Earth Science Matters Foundation (Eduardo de Mulder, Secretariat). Consortium members are linked to relevant international organisations, both scientifically (IAHS, IUSS, IUGS, IGU, IAH), institutionally (UNESCO, FAO, UNDP) and geographically (AGW, AU, GSAfrica). We look forward to cooperate with project parties aiming at value added.

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