

PRESS RELEASE

21st July 2017



Water conservation research for sustainable farming in Africa

Leading experts from the UK and developing countries across the world are joining forces to tackle some of the most serious global challenges in a new multi-disciplinary research programme launched today.

The Global Challenges Research Fund (GCRF) of Research Councils UK (RCUK) is supporting projects in the range of £2 - 8 million over four years. The British Geological Survey (BGS) and partners in the UK and southern Africa have won funding under this programme to undertake a large project on soil, water and the sustainability of crop production.

Two recent drought seasons in southern Africa, associated with El Niño events, have highlighted how vulnerable agriculture is to climate change. Droughts are a major threat to food security, with over 15 million people in the region classed as "highly food-insecure".



Colleagues from Lilongwe University of Agriculture and Natural Resources (Malawi) at a trial site where a maize crop thrived under conservation agriculture (left of picture) but failed under conventional management in the dry growing season of 2014/ 15. Photograph courtesy of Professor Martin Broadley, University of Nottingham.

Nevertheless, it is believed that agriculture can adapt to climate change and become more resilient through practices known as Conservation Agriculture. Conservation Agriculture makes big promises, and is attracting a lot of interest in Africa; it aims to help farmers be more productive whilst reducing challenges such as lack of water.

Conservation Agriculture is based on three principles: don't till the soil, this breaks up its precious structure and increases evaporation of water; add organic matter to the soil, this boosts its quality and reduces water loss; and rotate the crops to disrupt patterns of pest infestation.



Yet understanding of some aspects of this technique is poor. One big unanswered question is what happens to water in the soil under Conservation Agriculture? Does the soil store more water, helping crops to thrive when rains are delayed, and are there any knock-on effects on the vital groundwater below?

That's what a network led by the BGS hopes to find out. This research will complement studies by scientists at research centres in Zambia, Zimbabwe and Malawi on other aspects of Conservation Agriculture. It is hoped that these investigations will help to refine a technique that holds promise for millions of people and the livelihoods of smallholder farmers across southern Africa.

Dr G. Mwila of the Zambia Agriculture Research Institute said "the proposed research project is addressing some of the key issues that have potential to address increased productivity under Conservation Agriculture technologies for smallholder agriculture in Zambia".

Partners with BGS in this project are University of Nottingham, Rothamsted Research, Liverpool School of Tropical Medicine, University of Zimbabwe, University of Zambia, Kasisi Agricultural Training Centre (Zambia) and Lilongwe University of Agriculture & Natural Resources (Malawi).

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Notes for Editors

RCUK press release on GCRF can be found here: <http://www.rcuk.ac.uk/media/news/170721/>

The following is available for interview: Murray Lark, British Geological Survey

For additional information go to: www.bgs.ac.uk

The British Geological Survey

British Geological Survey (BGS), a component body of the Natural Environment Research Council (NERC), is the nation's principal supplier of objective, impartial and up-to-date geological expertise and information for decision making for governmental, commercial and individual users. BGS maintains and develops the nation's understanding of geology to improve policy making, enhance national wealth and reduce risk. It also collaborates with the national and international scientific community in carrying out research in strategic areas, including energy and natural resources, our vulnerability to environmental change and hazards, and our general knowledge of the Earth system. More about BGS can be found at www.bgs.ac.uk.

The Natural Environment Research Council

The Natural Environment Research Council (NERC) is the UK's main agency for funding and managing world-class research, training and knowledge exchange in the environmental sciences. It coordinates some of the world's most exciting research projects, tackling major issues such as climate change, food security, environmental influences on human health, the genetic make-up of life on earth, and much more. NERC receives around £300 million a year from the government's science budget, which it uses to fund research and training in universities and its own research centres. www.nerc.ac.uk