

# UK aid partners with Gates Foundation to tackle global food insecurity

UK aid is tackling global food insecurity through a new project with the Bill & Melinda Gates Foundation to protect plants from the threat of climate change, pests and diseases.

The new funding will allow scientists to research cutting-edge technology to protect crops and also to produce “super crops” that will be more efficient and withstand the impacts of climate change. For example, one of the projects will work to increase yields by harnessing major advances in photosynthesis.

International Development Secretary Alok Sharma and Bill Gates visited the Sainsbury Lab at the University of Cambridge yesterday (Monday 7 October). They met scientists working on advances in crop engineering to help plants capture nitrogen naturally and grow without the need for chemical fertilisers which can damage the environment.

Nearly 80% of people in the developing world rely on farming for their livelihoods but the impacts of climate change and the damage caused by pests and diseases have left millions struggling to grow enough crops to put food on the table.

International Development Secretary Alok Sharma said:

We are proud to be working alongside the Bill & Melinda Gates Foundation to tackle some of the most pressing humanitarian issues of our time.

Feeding a global population of 10 billion by 2050 is a major challenge, particularly with pests and diseases destroying up to 40% of food produced.

Our joint investment in cutting-edge British research will produce crops that can thrive in conditions caused by climate change. This means people in the developing world will have enough food to eat, British consumers get stable prices, and we can protect our planet by avoiding fertilisers or damaging pesticides.

Bill Gates, Co-Chair of the Bill & Melinda Gates Foundation said:

Pests and diseases are among the biggest challenges currently facing global food systems, and the threat is intensifying due to climate change, so I’m pleased that the UK Government is stepping up its partnership with our foundation to help protect the livelihoods of farming communities around the world.

With DFID's additional investment, the scientists I've met here at Cambridge University will have the potential to transform agriculture in developing countries by helping crops grow more efficiently and increasing overall yield. DFID is one of our most valued partners, and by working together we can continue to tackle poverty and deliver agriculture that is resilient in the face of climate change.

Global demand for food is estimated to increase by up to 40% by 2030 and 70% by 2050, yet climate change poses a serious threat to global food security. This new funding for research will mean smallholder farmers can take control of their productivity and maximise crop yields, contributing to economic growth.

Mr Sharma and Mr Gates Bill participated in a demonstration of [revolutionary kit](#), developed by the John Innes Centre, which helps farmers diagnose crop diseases within hours – something that can typically take months to do.

### **Notes to editors:**

DFID has partnered with the Gates Foundation since 2010 in the field of agriculture.

The new £38 million of UK aid will contribute to a portfolio of projects which will receive additional funding from the Gates Foundation.

The programme's impact will be two-fold. First, it will contribute directly to securing global food supplies in the face of pest and disease threats, climate change and the increasing scarcity of natural resources. Secondly, the programme will improve the agricultural productivity of smallholder farmers in sub-Saharan Africa and South Asia, thereby reducing poverty at the household and community level, and contributing to economic growth at the national level. The projects will:

- Help scientists to use [biotechnologies](#) to enable crops to convert sunlight and carbon dioxide more efficiently so they grow bigger and produce more food. For example, computer simulations suggest that altering the colour and structure of leaves would allow higher levels of photosynthesis to occur, greatly increasing yield.
- Develop diagnostic tools in West Africa. [The West African Virus Epidemiology \(WAVE\)](#) project is building the evidence base around disease threats to cassava, an essential crop in West and Central Africa. Cassava is a staple food for 800 million people globally, and a key crop for the poorest people in sub-Saharan Africa. Nigeria alone grows 57 million tons of cassava per year, accounting for a fifth of global production. However, the crop is threatened by two key viruses – cassava mosaic disease (CMD) and cassava brown streak disease (CBSD), both of which can cause yield losses of between 50% and 100%. This new research will help scientists to better understand the viruses and how they are

spread so they can develop cassava crops that can withstand them.

- Fund the [ENSA project](#) which aims to harness naturally occurring biological nitrogen fixation processes to deliver useful levels of nitrogen to cereals for smallholders in Africa, with the aim of dramatically reducing the use of synthetic fertilisers and dramatically increasing crop productivity.

During the visit there was a demonstration of a kit which helps farmers diagnose crop diseases within hours. It is a suitcase-sized laboratory which uses [nanopore sequence technology](#) to rapidly diagnose and monitor wheat rust in farmers' fields. It can be used without electricity and in varying temperatures.

DFID is also supporting CGIAR with funding (announced January 2018) to help scientists identify the specific genes in crops that means they are more nutritious, grow faster and are more resilient to disease and extreme weather. This scientific work to create 'super-crops' will help up to 100 million African farmers lift themselves and their families out of poverty, in turn building stability and prosperity, which will help African countries become our trading partners of the future.

The UN Food and Agriculture Organization suggests that global demand for food is estimated to increase by up to 40% by 2030 and 70% by 2050.