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UK researchers tackle 'hidden hunger' in Ethiopia and Malawi

Micronutrient deficiencies are widespread in Ethiopia and Malawi

Nottingham University project wins £4.4 million in funding to tackle micronutrient deficiencies linked to poor soil quality

A team of researchers at the University of Nottingham has received more than £4.4 million from the Bill & Melinda Gates Foundation to help alleviate micronutrient deficiencies (MNDs) in Ethiopia and Malawi linked to poor soil quality.

MNDs, particularly in zinc and selenium, are widespread in both countries, with the former increasing the risk of infection and stunted growth.

The GeoNutrition project will seek to improve baseline evidence on these deficiencies' prevalence and causes, as well as testing a strategy to alleviate MNDs called biofortification, which seeks to improve the micronutrient content of food crops.

This can be achieved through conventional breeding and the application of fertilisers containing mictronutrients.

In rural Ethiopia and Malawi, MNDs are common, particularly among poor and rural populations and communities are hard to reach with supplementation and food fortification programmes.

Agricultural interventions are therefore likely to play a key role in improving nutrition among many rural and marginalised groups, the researchers said.

MNDs have multiple causes, including nutrient-poor soils, a lack of access to diverse diets, low nutrient bioavailability in staple crops such as maize, and nutrient losses following infection, for example through diarrhoea.

A lack of micronutrients can pose a serious risk to human health, including the growth and development of children, since vitamins and minerals are required in small quantities in the diet for a range of bodily functions.

Led by Professor Martin Broadley, the ultimate aim of the GeoNutrition project will be to provide new evidence to support policy makers in the agriculture and public health sectors of Ethiopia, Malawi, and the wider region.

Broadley said: "Pioneering breeding work, led by several of the CGIAR (Consultative Group for International Agricultural Research) Centres and HarvestPlus, has increased the micronutrient content of crops including beans, maize, wheat, and sweet potato. New varieties of these crops now reach many people, for example, in Nigeria, Rwanda and Zambia.

He added: "Our team is exploring if biofortification can be effective for

improving human health at a national scale in Ethiopia and Malawi, including creating new, geographically-informed baselines."

Partners in the project include nutritionists and clinical trial experts from the London School of Hygiene & Tropical Medicine; Addis Ababa University, the lead partners in Ethiopia; and Lilongwe University of Agriculture and Natural Resources, which is leading the research activities in Malawi.

In the UK, Rothamsted Research and British Geological Survey are involved in the project.