**International Development Collaboration Workshop on 6 September 2016**

Global food security is a worldwide concern and needs continued focus for the survival of 7.3 billion people (expected to exceed 9 billion by 2050). Crop yields have fallen in many areas due to climate change (droughts, floods), degradation of soils (carbon loss, salinity) and loss of good soils due to urbanisation and roads infrastructure, pest and disease resistance and new invasive species affecting crop productivity, meaning that the management of soil, plant, water and nutrients has become increasingly important.

Rothamsted Research has a multidisciplinary approach to solving agriculture sector challenges through research. Nevertheless, a lot of the accrued knowledge, tools and technologies developed by our researchers find applications across the agri-food sector, from gene to plate both in the UK and across the world. The institute hosted an International Development Collaboration Workshop on 6 September 2016, with the objective to initiate dialogue and build partnerships with external organisations, supporting development of agriculture and solutions to food security, in developing countries.

Over 60 delegates from the agri-food industry, research organisations, charities and NGOs came together to discuss the challenges faced by smallholders in developing countries caused by climate change and missing link between smallholders and markets. Prof John Crawford, Associate Director, Rothamsted Research, highlighted the need for a sustainable system approach to solve the food security challenge, as no single solution or approach is going to solve the complexity of the problem.

Executive Director and CEO of Rothamsted Research, Prof Achim Dobermann, stressed the need to transfer knowledge from research to practice, for its wider application to solve the problems of food security. The institute is planning its next five year strategy and is also involved in the Global Challenges Research Fund (GCRF) to develop projects with developing country partners, to improve food production in the developing world. The concept of Sustainable Intensification of agriculture is proving useful to improve crop productivity without causing negative impact on the environment and biodiversity. Prof Dobermann also mentioned the successful example of climate smart [Push-Pull](http://www.push-pull.net/) program developed in East Africa, together with [International Centre of Insect Physiology and Ecology](http://www.icipe.org) (ICIPE) to control harmful pest-Stem borer and Striga weed that cause devastation in maize, sorghum and rice crops in entire Africa.

Dr Phil Abrahams, Strategy Director [CABI](http://www.cabi.org/), emphasised the need to understand the problems of smallholders which are not only capital deficit but also have no access to information to manage their crops and livestock efficiently in the face of climate change. Dr Rashid Bajwa, CEO of non-profit organisation [NRSP](http://www.nrsp.org.pk/) in Pakistan, shared their experience of creating back to back linkage of the small rice producers with the market to drive better returns of their produce.

Dr Liliya Serazetdinova, [KTN](http://www.ktn-uk.co.uk/), gave an overview of various grant funding opportunities from Innovate UK that support collaboration with developing country partners. She explained that Round 6 of the Agri-Tech Catalyst funding competition (£4M from Innovate UK), is supporting collaboration between research and industry, to develop innovative solutions to solve agriculture sector problems in selected developing countries. Agri-Tech Catalyst Round 6 details are available on the UK government website.

* Deadline for registration is - 26 October 2016 for industrial research project (EOI)
* Full stage application for all three categories (early stage, industrial research and late stage awards) - 25 January 2017.

Key research themes of the competition are integrating smallholders into supply chains, meeting quality standards and improving productivity, creating new supply chains, increasing the value of production to smallholders, improving access to appropriate innovation in developing countries, innovation that increases rural income through improved processing/storage and control of crop pests, weeds and diseases.

Eligible countries for this round of funding are Afghanistan, Bangladesh, Benin, Burkina Faso, Burma, Burundi, Cambodia, Central African Republic, Chad, Comoros, Congo, Eritrea, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Haiti, Kenya, Kyrgyz Republic, Liberia, Madagascar, Malawi, Mali, Mozambique, Nepal, Niger, Nigeria, Pakistan, Rwanda, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Tajikistan, Tanzania, Togo, Uganda, Yemen, Republic of Zambia and Zimbabwe.

Over 15 pitches were delivered by both external companies and Rothamsted researchers pitching their ideas seeking collaboration. The workshop had representation from a variety of organisations including research, food processors, multinationals and NGOs, etc. These were Agrimetrics, Amaagi International, Anglia Airborne Innovations, Barefoot Lightning, BBSRC, CABI, Dept. International Trade, DLF Seeds, Dudutech, Entomics, Farm Africa, Flamingo Horticulture, Geoinfo Fusion, Gowan Crop Protection, Humanity Africa CIC, I.S. Environment, Ice Robotics, KTN, LGC, Mutual Fruit, National Rural Support Programme Pakistan, Nestle, NSF International, Paragon Agri, Rezatec Ltd, Rothamsted Centre for Research and Enterprise, Satellite Applications Catapult and UCL.

**Collaboration Opportunities:**

A variety of projects could be developed to support the research themes supporting food security in developing countries mentioned in agri-tech priority areas. They could be around soil health, improving nutrient use efficiency, soil microbiology, crop quality, smart crop protection, forage quality and nutrition, crops/varieties, improving carbon sequestration, reducing surface run off, loss of nutrients and soils due to erosion, reducing greenhouse gas emissions from agriculture, comparing various grassland systems, improving meat quality, uptake of trace elements, modelling and evaluating both crops and livestock genetics suitable for various climates and data modelling, etc.

To discuss your project ideas please email Dr Khalid Mahmood, Business Development Manager (Khalid.mahmood@rothamsted.ac.uk)**.**

**Workshop Program and List of Participants**

**Speaker Presentations**

**Pitches**

Pitches 1-4

Pitches 5-8

Pitches 8-12

Pitches 13-15