

## FUTURE DIRECTIONS IN RESEARCH RELATING TO FOOD SECURITY

### A CONSULTATION BY THE BIOTECHNOLOGY AND BIOLOGICAL SCIENCES RESEARCH COUNCIL (BBSRC) ON BEHALF OF THE RESEARCH COUNCILS<sup>2</sup>

#### Response by the UK Collaborative on Development Sciences (UKCDS)

17/07/09

#### Introduction

1. The UK Collaborative on Development Sciences (UKCDS) brings together key UK funders and stakeholders<sup>1</sup> who support the development sciences research base. It aims to provide a framework for a more coordinated approach to development sciences<sup>2</sup> research, in order to increase its relevance and impact to international development policy and practice. The UKCDS secretariat works with members and stakeholders to raise the profile of development sciences, add value to new or ongoing initiatives, identifies opportunities or barriers to collaboration and seeks to reduce transaction costs.
2. BBSRC are leading the consultation on behalf of Research Councils and are seeking views from interested bodies and individuals on research relating to the production, supply and consumption of food both for UK needs and more widely in an international context of global food security and on related aspects of food security. UKCDS welcomes the opportunity of contributing to this important consultation and this response addresses issues around research on food security in developing countries. It has been prepared by the UKCDS secretariat and has been reviewed and commented on by officials from member organisations.
3. Achieving food security requires not only a focus on agricultural production and food outputs, but also a systems wide understanding to ensure availability, access and utilisation. The complex interconnectedness and interdependencies with the environmental, economic and social factors are now well documented<sup>3</sup>. It is therefore vital that the gap between BBSRC's own strategic focus on sustainable production and the systems approach inherent in international food security frameworks (such as that advocated by the FAO<sup>4</sup>) are also addressed by developing a multidisciplinary and multi-stakeholder Food Security Programme.
4. There are many food security initiatives currently underway in the UK<sup>5</sup>. The proposed food security research initiative would need to identify an overall UK framework and governance to ensure research inputs from across the different food security interests are captured. This framework could also enable a better distinction between international and UK dimensions of the research - which is not clear in the consultation.

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<sup>1</sup> BBSRC; Defra; BIS, DFID, DH, DfT, EPSRC, ESRC, NERC, MRC, Scottish Government, the Wellcome Trust

<sup>2</sup> *'that science with a direct or indirect potential to contribute to international agendas for development in the poorest countries of the world'* Development Sciences Working Group, October 2006

<sup>3</sup> IAASTD (2009) *Agriculture at a cross roads. Global report*. International Assessment of Agricultural Knowledge, Science and Technology for Development. Ed. B. D. McIntyre, H. R. Herren, J. Wakhungu, R. T. Watson, Island Press Washington DC

<sup>4</sup> Webb, P and Rogers, B. (2003) *Addressing the "In" in Food Insecurity*. Washington, D.C.: Food and Nutrition Technical Assistance (FANTA) Project, Academy for Educational Development (AED)

<sup>5</sup> UKCDS (in prep) Food Security: An overview of UK and international stakeholders, UKCDS Secretariat, London

5. The proposal for an integrated systems approach is not detail in the consultation so it will be essential that the proposed road map to develops the concept further. In particular there is a need to ensure much stronger linkages are developed between science and the development community, policy and practice. Strengthening these linkages will be critical to deliver sustainable improvements to lives for the world's poorest and most vulnerable people.
6. In this response we outline some of the main issues that BBSRC and the Research Councils will need to address to support the delivery of research addressing the challenge of food security in developing countries. We also discuss a general point, that the UK is uniquely placed to deliver science-based solutions for development, providing that adequate funding is allocated to shape research programmes based on development needs.

### Feedback on the consultation questions

7. **Q1:** The emphasis on the “drivers and wider considerations” mainly reflects the UK perspective. Food insecurity from a global perspective is driven by poverty and vulnerability, with large sections of the human population living with little or no ability to command access to adequate food. The proposed road map will need to include the linkages between food security and the humanitarian dimension for example, research needs to understand chronic long-term causes of food insecurity as well as those caused by shocks such as natural disasters, or political or civil unrest. Other areas for further research include mother and child health and nutrition, and micronutrient deficiencies, both of concern for global food insecurity<sup>6</sup>.
8. **Q2:** Although the FAO food security framework was mentioned in the consultation, there is a critical need to operate within a broad framework, understanding complementarities between stakeholders and their comparative advantages to harness the outputs of different research activities at both the UK, EU and international level. The UKCDS draft review paper on UK food security initiatives and work currently mapping EU agriculture research and aid funders for Imperial College on behalf of the Bill and Melinda Gates Foundation, demonstrates that diverse and disparate activities are already underway. If different actors lead across the different food security pillars without an overall coherent framework to ensure balance this is a cause for concern. There are already examples of appropriate UK Research Council frameworks, for example, the Living With Environmental Change (LWEC) or the Global Uncertainties programmes or the UK Chief Scientist’s Food Research Partnership. As the lead Government organisation for food security and development is DFID, the proposed initiative must have good awareness and strong links to the DFID research and policy programmes. The context and governance of a new programme must be carefully considered.
9. **Q3,4,5,6,7:** In terms of the specific research targets, it is not clear what the mechanisms for identifying and setting the priorities are. With respect to food security in developing countries it may be more pertinent to first describe the target groups that these research priorities would aim to support: *if* the intended beneficiaries of this research are those living in food insecurity today then the list could start with a more clearly articulated definition of the problems from a human well-being, or vulnerability perspective. As they stand, it is difficult to understand the scale of the problems the specific priorities will address. For example, with regards to priorities for research investments; in low income food deficient countries (LIFDCs), fish make up 22% of animal protein consumption

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<sup>6</sup> *The Lancet's* Maternal and Child Undernutrition Series, <http://www.thelancet.com/series/maternal-and-child-undernutrition> accessed 17/7/09

overall. In coastal areas and around major river systems the dependence on fish is usually higher<sup>7</sup> and greater priority might therefore be given to research on fish conservation/production than to land based food production

10. **Q7:** The FAO estimates on undernutrition are based on caloric consumption. However, malnutrition in the form of micronutrient deficiencies (sometimes called “hidden hunger”) is also a critical problem for large segments of humanity. Important priorities are:
- i. Iron deficiency is the most prevalent form of malnutrition worldwide, affecting an estimated 2 billion people. Eradicating iron deficiency can improve national productivity levels by as much as 20%. According to a recent WHO review, 42% percent of pregnant women and 47% of preschool children world wide have anaemia.
  - ii. Vitamin A deficiency affects approximately 25% of the developing world’s pre-schoolers. It is associated with blindness, susceptibility to disease and higher mortality rates. It leads to the death of approximately 1-3 million children each year. Iodine deficiency is the greatest single cause of mental retardation and brain damage.
  - iii. Worldwide, 1.9 billion people are at risk of iodine deficiency, which can easily be prevented by adding iodine to salt<sup>8</sup>.
11. **Q8:** The priorities have been described in the consultation document appear to reflect current research activities in the UK, rather than developing a new consideration for research that stems from well articulated needs of a broad stakeholder-base. For this purpose we suggest the need to link this consultation with other relevant activities, both internationally and in the UK, aimed at tackling the challenge of food security
12. UKCDS and ERFF recently worked together to identify the characteristics of successful collaborations and partnerships. Of top priority was the need to allocate adequate time and resources to shaping research questions to ensure all collaborators and stakeholders achieve their research and outcome needs. Scoping activities, like pre-proposal grants or ‘sand pits’ for example, that bring together different stakeholders right from the start of a research initiative are key in terms of framing the research questions and proposed outputs within an appropriate, “real-world” context. Key stakeholders could include policymakers, researchers, civil society organisations, industry, development agencies, end users and the media. The end result of this type of collaboration is likely to be excellent quality research (recognised by HEFCE evaluation systems) that provides direct, practical application of evidence based solutions.
13. UKCDS members (ESRC, DFID, NERC and the Wellcome Trust) have taken this approach to develop a unique pilot project that will map the contribution that UK funders and scientists are currently making to address the climate change, agriculture, food and water development challenges in Bangladesh. The pilot will engage and work with Bangladeshi scientists and policy makers both in Bangladesh and the UK and help inform future strategies for both countries’ funders and policy makers. As a pilot it will inform whether this approach can be used to map UK science contributions in other countries, ultimately providing added value and joined up funding, science and future investment opportunities.
14. **Q9:** With regards to science uptake in international development policy and practice, there is currently limited capacity within DFID to interpret and use the development research that is produced both in house and externally. UKCDS members, including BBSRC, can support DFID to develop the evidence base and improve its use in policy

<sup>7</sup> [www.mrag.co.uk/Documents/PolicyBrief3\\_Food\\_Security.pdf](http://www.mrag.co.uk/Documents/PolicyBrief3_Food_Security.pdf). Accessed 7 July 2009

<sup>8</sup> Sources for data in this paragraph include the WHO and the UN Standing Committee on Nutrition.

development. There are a number of examples where collaboration is allowing multidisciplinary approaches to complex problems, widening the applicability of existing research, increasing the funding available and enabling sharing or delegation of the administrative resource burden e.g. joint Research Council, other Government Departments and DFID programmes ESPA, SARID and CIDLID.

15. **Q10:** There are a number of ongoing UK activities working on research capacity and the skills gaps, including a Defra review, the All Party Parliamentary Group on Food and Development and the Food Research Partnership subgroup on skills, chaired by BBSRC. It is important that these activities do not operate in parallel isolation, and opportunities to provide detailed information on this issue be explored in collaboration.
16. The Food Research Partnership skills and capacity sub group will provide its report by October 2009. A key skills shortage in development is in the translation of research to practical application and use and the ability to monitor and evaluate impact, success and sustainability of interventions. Investment in and recognition of the importance of knowledge exchange/translation skills is essential if 'research into use' is to be successfully achieved
17. **Q11:** With regard to coordination – collaboration mechanisms to work across funders already exist, like RCUK and UKCDS. These could be strengthened to support the delivery of programmes across traditional disciplines. The LWEC and Global Uncertainties programmes also provide a broad framework for collaborations on this topic.
18. **Q13:** Private research/policy bodies not eligible for Research Council funding that deliver high quality research should be included within the collaboration framework, including centres internationally renowned for skills in this area (e.g. FERA, ADAS).

### **Build partnerships that deliver more cost-effectively**

19. UK organisations spend significant time and resource procuring research, whilst the UK research community also spends significant time tendering for what are often short term (3-5 year) projects or programmes. The newly created UK or developing country capacity then has no guarantee of ongoing support and the valuable investments in skills, knowledge and facilities may not be sustained for the future. A better framework for research procurement and delivery will reduce costs and free resources for research. For example, longer term investments (5-10 years) in both research and capacity strengthening have recently been announced by the Wellcome Trust and DFID who have funded projects in Africa that help build critical masses and locally sustainable research capacity in partnership with the UK and other countries<sup>9</sup>. The UKCDS capacity strengthening group meets to share experiences and good practice in research and higher education capacity strengthening, including the monitoring and evaluation of initiatives and its operation or outputs could be used to support the proposed food security programme.
20. UKCDS can provide any further information required and looks forward to the response to ongoing involvement and support of this initiative.

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<sup>9</sup> For more information on the initiative see <http://www.wellcome.ac.uk/Funding/Biomedical-science/International-funding/Global-health-research/WTDV026103.htm>