



**Making science work for development**

## Research for development in a changing landscape

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# Making science work for development



Department for  
Business, Energy  
& Industrial Strategy



Department  
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Development



Government  
Office for Science



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Commonwealth  
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SCIENCE OF THE  
ENVIRONMENT



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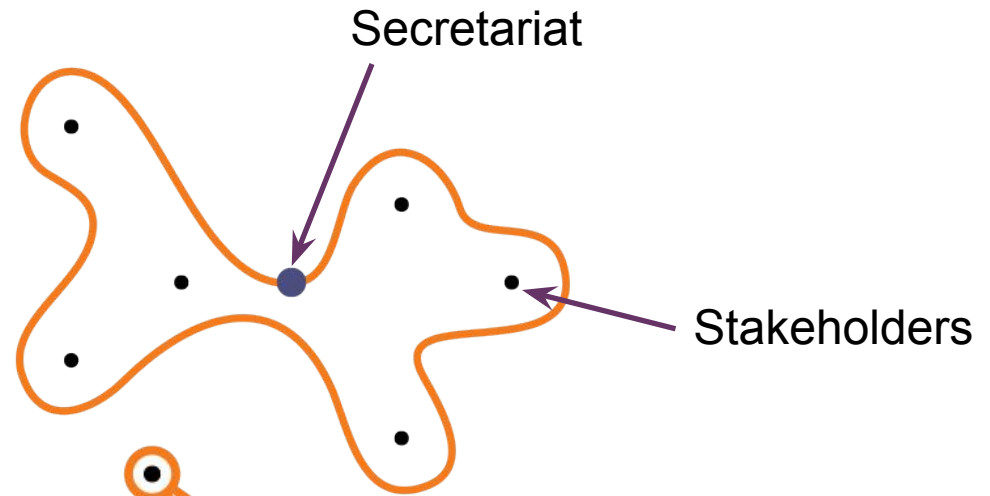
Research & Policy Officer

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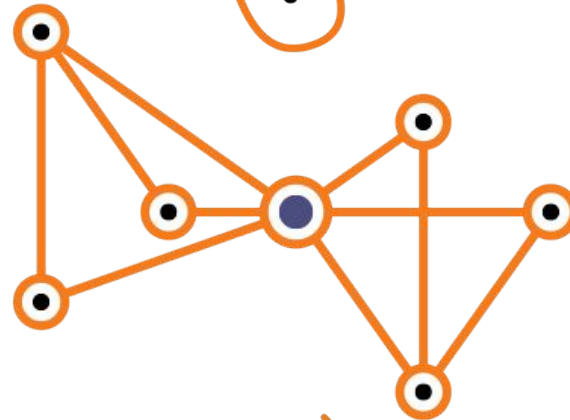
t: +44 (0)207 611 8325

# What does UKCDS do?

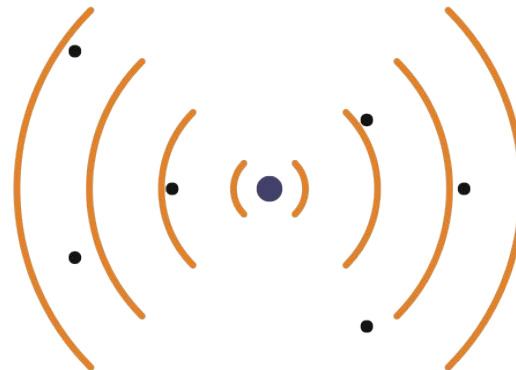
- Bring people together



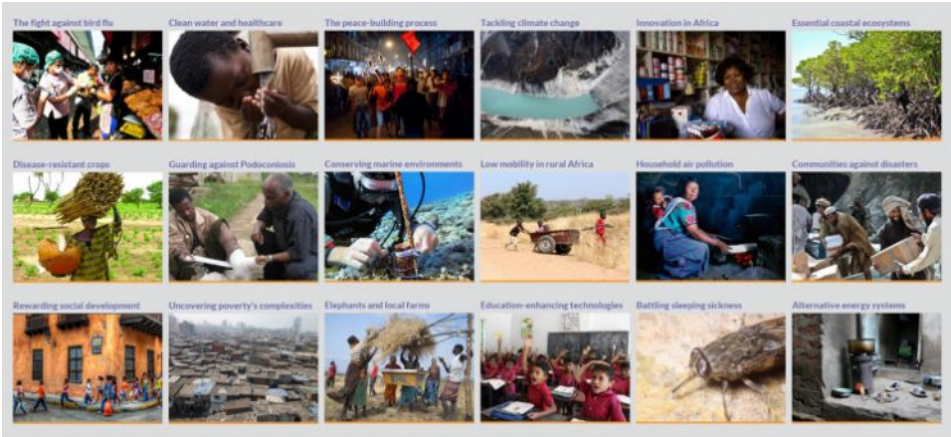
- Share information



- Promote opportunities



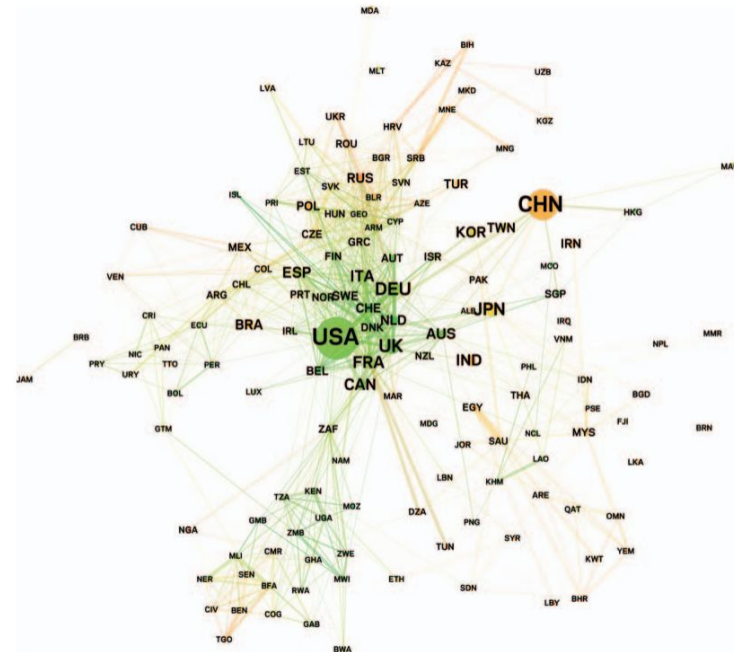
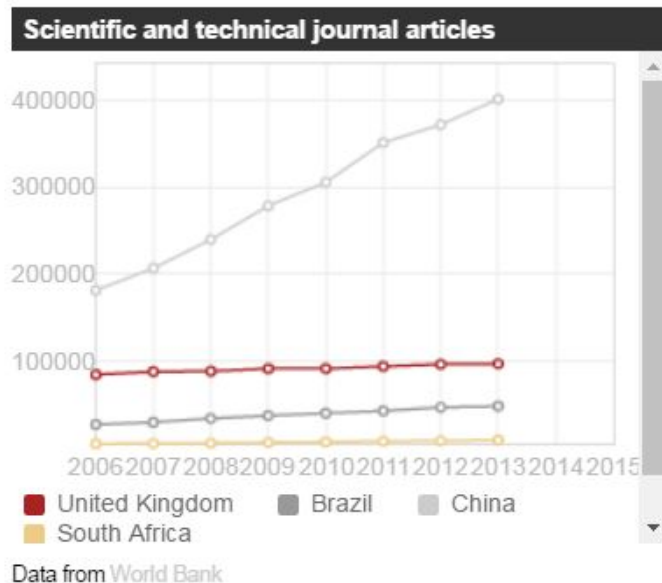
# Connecting research with development challenges: the changing landscape



# Political commitment to science, technology and innovation for development



# Rising economies and investment in science, technology and innovation (STI)

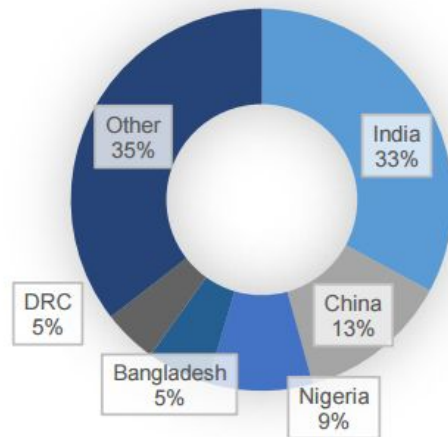


Global co-authorship map, 2008-2012

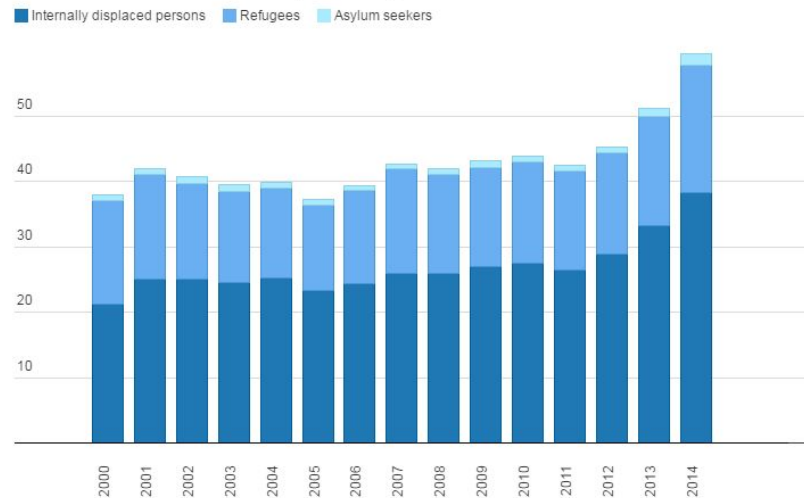
- Increasing North-South and South-South collaboration – 60.1% growth in authors from Africa from 2008-2014
- Increasing investment in STI and increasing mobility of researchers around the world

# Increasingly fragmented development landscape

Top five countries, as a share of global extreme poor



Millions of Individuals Displaced by Conflict



Source: UN High Commissioner on Refugees, Internal Displacement Monitoring Centre

Key development challenges: **inequality, fragility, urban poverty, changing demographics, environmental change, resource scarcity**

- More than half of the world's poor live in Nigeria, India and China<sup>1</sup>
- By 2030, the percentage of the world's poor living in fragile states could be as high as 75%<sup>2</sup>
- By 2030, sub-Saharan Africa could account for 80% of the world's poor<sup>3</sup>

<sup>1</sup> The Data Report: putting the poorest first, 2015

<sup>2</sup> Financing the future, How international public finance should fund a global social compact to eradicate poverty, ODI

<sup>3</sup> Global Monitoring Report 2014/15: Ending Poverty and Sharing Prosperity, World Bank, 2015

# More complex challenges – collaboration and new approaches to research



Complex interrelated problems



Solution may cause new problems



Urgency



No central authority



Incomplete or complex information



Resistance to change



# And in the UK?



## UK aid:

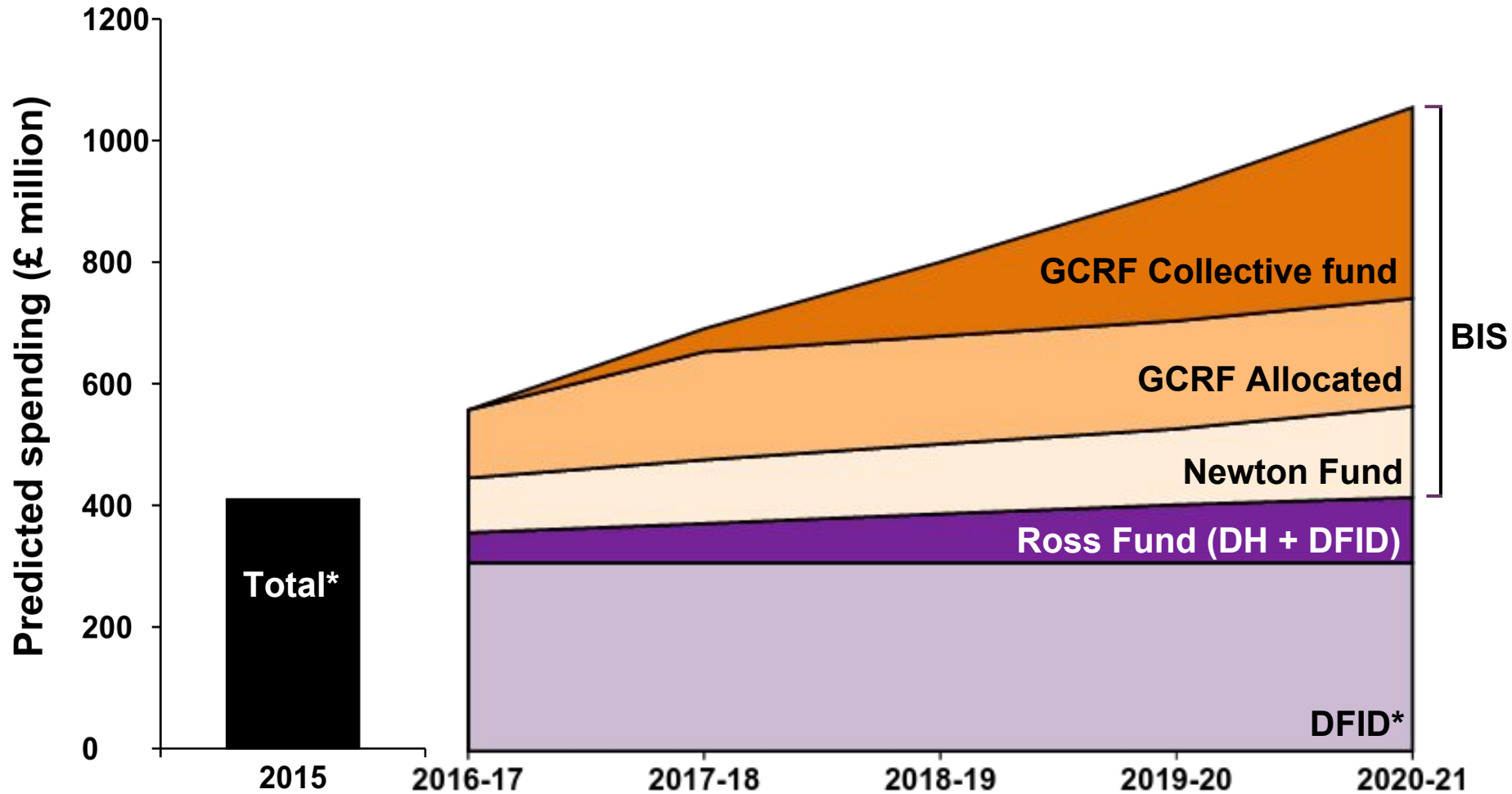
tackling global challenges in the national interest

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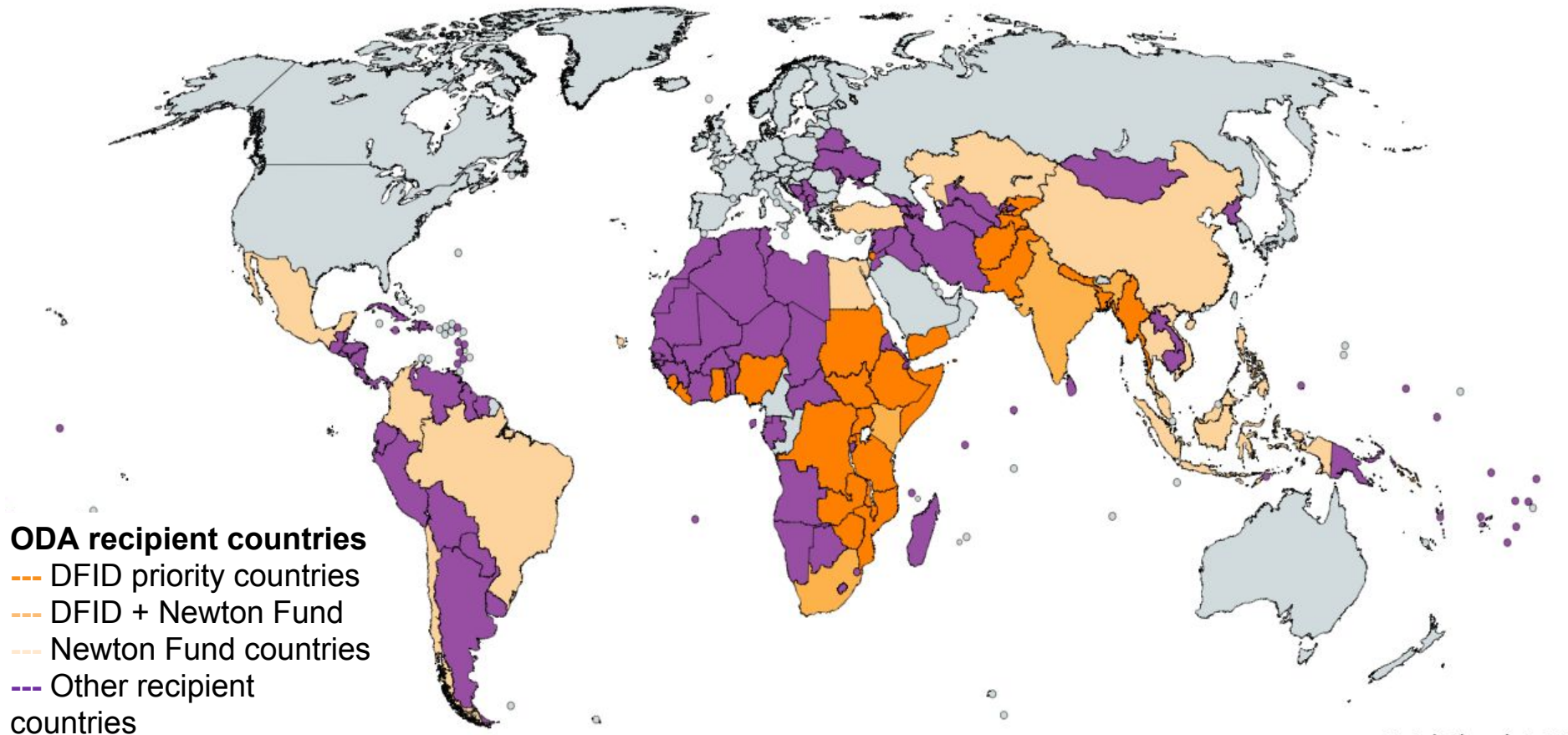
- Strengthening global peace, security and governance
- Strengthening resilience and response to crises
- Promoting global prosperity
- Tackling extreme poverty and helping the world's most vulnerable



# Rising ODA research spend rising across government

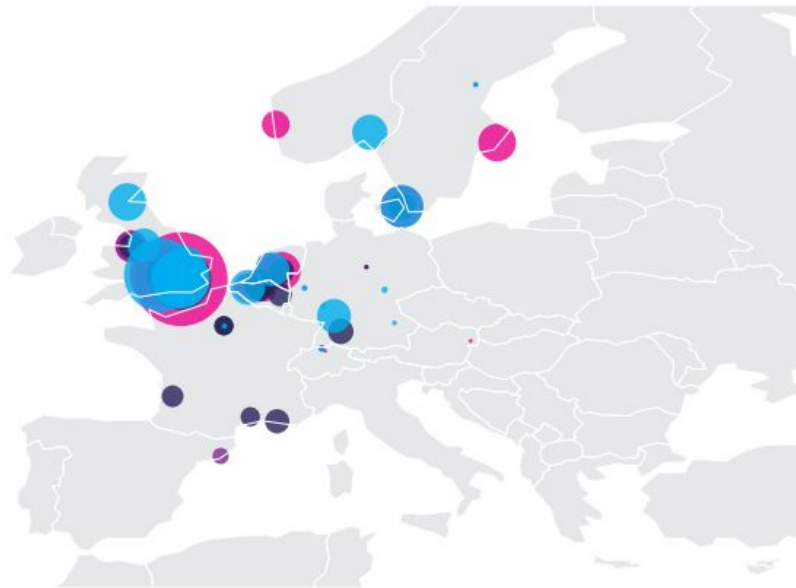


\* Based on UKCDS estimates from figures provided by members

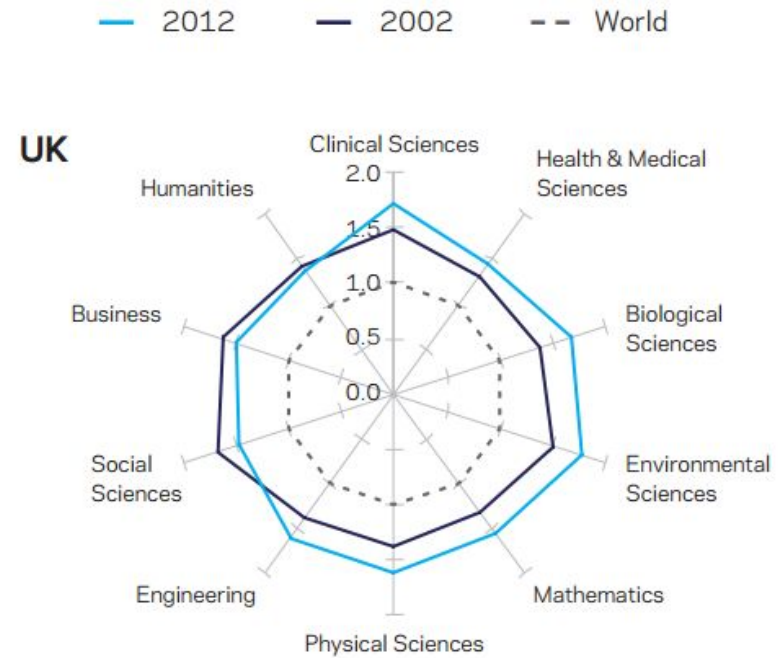
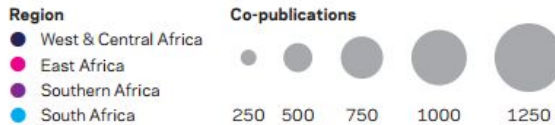


Created with mapchart.net ©

# UK research base well-placed



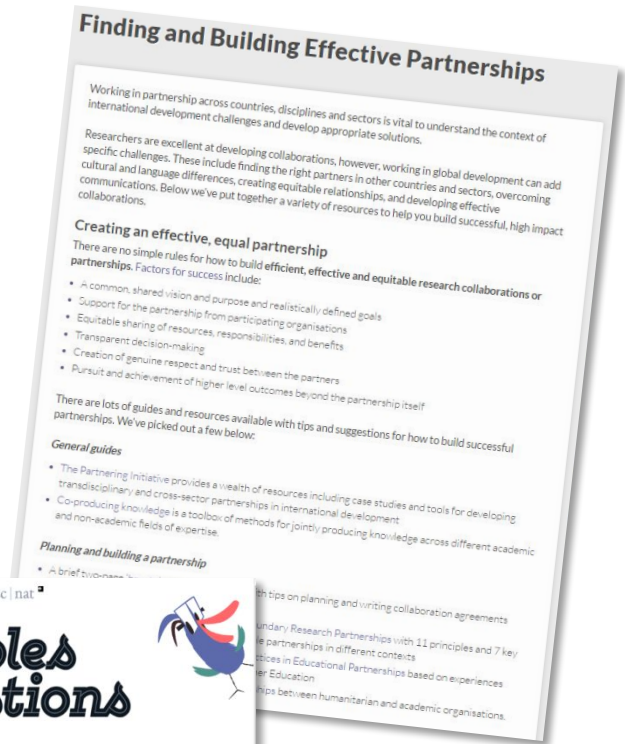
**Figure 3.15** — Inset of world map, focusing on Europe, depicting top institutions collaborating with different SSA regions and South Africa, 2003-2012. Source: Scopus. Plotted using R/ggplot & rgdal, and free vector and raster map data @ naturalearthdata.com.



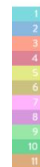
A decade of development in sub-Saharan African Science, Technology, Engineering & Mathematics Research, World Bank & Elsevier, 2014  
 International comparative Performance of the UK Research Base, Elsevier, 2013

# Its about approach and context

- Is the research relevant and needed?
- Does it shed new light on complex challenges? E.g. synergies and tradeoffs across the SDGs
- Implementation as well as new technologies or ideas
- Excellent research AND building sustainable capacity
- Creating and maintaining equitable partnerships



## 11 Principles & 7 Questions

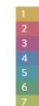


Transboundary and intercultural research in partnership is challenging. This is particularly the case when cooperation takes place between rich and poor countries. This guide is based on 11 principles and 7 key questions. They aim to build research partnerships in the most constructive, balanced and results-oriented manner.

Click here to download the complete guide.  
Click here to download the guide in French or German.

The **11 principles** address basic challenges and – offer practical guidance. Applying these eleven principles should support the partners in building trust and assuming mutual responsibility.

Click on numbers 1-11 on the left for short animated videos and testimonials on each principle.



The **7 key questions** deal with issues that can hinder or facilitate meaningful cooperation in different contexts. They make it easier to understand the nature and context of the partnership.


Click on numbers 1-7 on the right for more details and graphics on each key question.

11principles.org



# What are the research needs?




**UNRISD SI:D** The Sheffield Institute for International Development.  
 United Nations Research Institute for Social Development

Working Paper 2015-7

**A Hundred Key Questions for the Post-2015 Development Agenda**

March 2015

**50 BREAKTHROUGHS**  
 Critical scientific and technological advances needed for sustainable global development

Authors | Shashi Buluswar, Zach Friedman, Priya Mehta, Subarna Misra, Roger Sathre  
 Editor | Urvashi J. Kumar  
 2014





## Disease-resistant crops

### Creating disease-resistant crops to help feed millions

Pearl millet is a staple crop for populations throughout Africa and South Asia. Every year it suffers extensive crop losses due to the disease downy mildew. This leads to widespread food insecurity and financial instability, especially for the poorest farmers. Researchers at the Universities of Bangor and Aberystwyth have been part of an international effort to successfully breed a new disease-resistant variety of pearl millet. It is now grown extensively in India – enabling more resilient farming systems, creating jobs for local women and increasing food security for an estimated 3 million people.



Pearl millet is a staple crop grown in some of the harshest environments across Africa and South Asia (Image: ICRISAT)

## Elephants and local farms

### Using honeybees to keep crop-raiding elephants out of farmer's fields

In many parts of Africa, elephant numbers are on the rise. While a success for conservation, elephants often wander out of national parks and into nearby farmlands where they eat or trample farmers' crops, devastating local food security and livelihoods. Researchers from the University of Oxford have helped develop an affordable and non-violent elephant deterrent: beehive fences. These innovative fences are now used in several parts of Africa, helping to protect crops from roaming elephants and boost food security and local farming businesses.



A Kenyan farming community setting up a beehive fence (Image: Dr Lucy E King)







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**Any questions?**

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