ODA issues in STFC-India collaborations

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Main requirement
The main objective should be the economic development and welfare of the DAC countries: requirement for Newton & GCRF activities

Three routes for scientific activities:
- **Research** directly and primarily relevant to the problems of the DAC countries
- **Training and up-skilling** to take advantage of the research, contributing to economic development
- **Translational research**, creating collaborative solutions to development challenges and strengthening innovation systems, aiding economic development

ODA Experience in Newton Fund projects so far
The Newton-Bhabha program

- Bringing together the UK and Indian scientific research and innovation sectors to find joint solutions to the challenges facing India in economic development and social welfare
- £50 million over five years
- Supported through ministerial agreements.
- Delivery Partners: the Academies; British Council/HE International Unit; Research Councils; Innovate UK; and the Met Office
Prioritised by UK-India Science and Innovation Taskforce

Identified 3 grand societal challenges

- Sustainable Cities and Urbanisation
- Energy-Water-Food Nexus
- Public Health and Well-Being

And two underpinning capabilities

- High Value Manufacturing (HVM)
- Big Data

Newton-Bhabha Fund
Three ODA pillars

People: building skills and capacity through training and people exchanges

Programs: research collaboration on development topics

Translation: taking innovation from universities to industry
## Ongoing programs

### Joint PhD programs & CDT’s

<table>
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<th>S.no</th>
<th>Name of the applicant</th>
<th>Indian Home Institute</th>
<th>UK Host Institute</th>
<th>Status</th>
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<td>Indian Institute of Science, Delhi</td>
<td>University of Bristol, Bristol, United Kingdom</td>
<td>Selected</td>
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</tbody>
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### Maternal Health, Childhood and Under-nutrition and Infectious Disease

### Involved Partners
- DST, DBT (India)..
- MRC, NERC, ..
- Coordinated by RCUK India office
Where does STFC fit in?

- STFC departments joined at a slightly later stage
- Existing/potential joint research programs in ODA relevant areas
- Training/access to facilities
- Ministerial agreements
ODA: challenges

• Identifying research topics
  – Outside the priorities set by the task force
  – Finding research groups working on specific problems relevant for India & ODA compatible
  – Matched funding requirement

• People: training (mostly because of matched-funding requirements)
  – Biased against less-affluent institutions
  – Absence of ring-fenced funding for hiring new people
  – Cannot hire people in the UK
  – Cannot pay for their travel from India

• Translational
  – No infrastructure for this
  – Capital spending is not allowed
  – Limited networking possibilities
Building on existing collaborations

• Uncertainty over ODA compliancy and matched funding clauses

• Tata Institute of Fundamental Research (TIFR) was the only place that could fulfill these in a short span of time

• Established an MoU with TIFR in 2014 (official press release during Indian PM’s visit in 2015)
CLF-India collaboration

- Optimising sources of ionising radiation and particles for therapy and imaging: ODA pillar: program
  - Involves all aspects of related fundamental science
  - Translational research – not started yet

- Capacity building – ODA pillar: people
  - Training of skilled people
  - Joint developments of mutual interest
Outline of the CLF-India program

- £350k over 5 years
- No ring-fenced access to facilities in CLF
- Access to CLF facilities through collaborative experiments that get scheduled through the FAP prioritisation
- Have had 4 joint experiments in CLF and in India.
- Indian contribution ~ £50k so far
- Training of 12 PhD & 1 Masters students so far
- 1 joint PhD started
Future directions for this collaboration

- Two workshops held in India, exploring the potential of high power lasers as cost effective and alternative sources for ionising radiation for therapy, diagnosis and biomedical imaging.

- Established collaborations between other Indian Institutes and UK universities: training and up-skilling

Opportunity to address the third pillar: translational research

Strong interest in a UK-India Innovation Centre
ISIS-India collaboration

- DST’s £2M investment in ISIS
- Championed through India’s nanomission programme: supported by Newton-Bhabha programme
- Access to all ISIS portfolios
- Involvement in new instrument development – Zoom: insights into how drugs interact with the body
- Up-skilling in the area of neutron scattering: capacity building in India
- Impact in food and energy nexus
- Took a few years to establish but set to grow now
ODA: lessons learned & opportunities

• Vital to have early buy-in from Indian departments/funding bodies
  ➢ We had to reverse-engineer departmental agreements.
  ➢ Found difficult during last GCRF round

• How to prove the problems are vital for India?

• Involve multiple organisations/institutes: involve RCUK India office from beginning

• GCRF doesn’t have matched funding requirements – easier to manage

• Facility access: are we missing an opportunity here?

• Funding PhD students for their degrees from UK universities? Postdocs?

• Joint capital investment for translational research?