



Maximising Impact from UK-India Collaborative Research

Based on findings from the UK-India Impact Symposium
New Delhi, December 2010

Organised by:

UK Science & Innovation Network / Department of Science & Technology, Government of India / Research Councils UK

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UK Science & Innovation Network



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Department of Science and Technology
Government of India



RESEARCH
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FOREWORD



Dr. T Ramasami

Secretary to the Government of India,
Department of Science and Technology



HE Sir Richard Stagg KCMG, CMG

British High Commissioner to India

Science, Technology and Innovation have emerged as the main ‘mantras’ of the modern world and its knowledge economies. It is through the process of innovation that knowledge is converted into wealth and social good; and this process takes place from firm to farm.

I have a strongly held belief that countries must work together as we look at the challenges and opportunities that the coming decades will bring. Collaborative research proves constantly that it brings huge benefits to everyone, as researchers from different disciplines share their expertise to achieve extremely positive and high impact results. UK and Indian researchers have a vast amount to offer each other in terms of knowledge, good practice and a different perspective.

Collaboration between researchers from the UK and India should focus on maximising the impact of research and extending its benefits to all.

The UK and India have been close partners in Science and Research for many years. The breadth of our research collaboration today demonstrates the strong commitment both Governments have made to this critical area of joint work.

Research and Innovation offer a unique opportunity to share ideas and experiences in a productive partnership. The impact of collaborative research will be greatest if we engage with the public, business, government and the third sector. It will help drive economic growth and deliver social and development goals – as well as building trust and institutional relationships between our two countries.

I, therefore, warmly welcome this report, which summarises the potential benefits of UK-India collaborative research and examines the barriers and enablers to maximising its impact.

INTRODUCTION

The UK-India Impact Symposium, organised by the Research Councils UK (RCUK), India, the UK Science and Innovation Network (SIN) and India's Department of Science and Technology (DST) was held in New Delhi between 7th and 9th December 2010.

The symposium aimed to explore the benefits, barriers, challenges and potential solutions to achieving maximum impact of UK-India collaborative research.

The 'Impact' of UK-India research collaboration is indeed very wide and includes not only academic but also economic, environmental and political impact. The symposium, themed around maximising such impact, brought together over 60 senior academics, policy makers, industry representatives, research funders and investors from the UK and India to explore the benefits of UK-India collaborative research and the barriers to achieving these benefits.

On one hand UK-India collaborative research offers huge benefits ranging from economic and intellectual benefits to promoting diplomatic relations; while on the other, practical issues like visas, distance and communication or strategic issues related to Intellectual Property Rights act as barriers to achieving these benefits. This further stimulates the need for creative mechanisms to accelerate the impact of collaborative research.

This document captures the thoughts and ideas presented and discussed at the UK-India Impact Symposium.

Benefits of UK-India Collaborative Research

Understanding the impact of research is complex. In some cases it takes years, even decades, before the true value of research becomes evident. The impact of collaborative research can take many forms .

Below is a list of the different types of impact of UK-India collaboration as identified at the Impact Symposium. The symposium focussed particularly on benefits from UK-India collaborative research but some impacts identified are, of course, more widely applicable than this.

IMPACT ON RESEARCH EXCELLENCE

- **Access to international expertise:** The meeting of the very best minds from the UK and India produces higher quality/ higher impact work than that done by one country in isolation.
- **Better access to data from each other's country:** : Exchanging and sharing data is often a key element of the research process but difficult to do without the trust and understanding that international partnerships bring.
- **Learning from each other's knowledge:** Researchers enhance a range of their own skills (e.g. academic, cultural understanding, communicating with diverse audiences) through dialogue with colleagues in different countries.
- **Capacity building:** Partnerships across the UK and India have led to an increase in capacity building. For example, exchanges of early career researchers or visiting scholars help enhance knowledge and skills of people in both countries.

IMPACT ON ECONOMY

- **Access to markets:** Research partnerships between the UK and India increase the bilateral trade and investment ties. Due to India's rapid growth, the outcomes of collaborative research have enormous value in the huge and expanding Indian marketplace. Correspondingly, the UK is the gateway to European market and is home to world-class universities, many with a track record of commercialising research outputs.
- **Leverage of funding:** Partnerships developed in response to UK-India joint calls are often enduring and of high quality and are therefore capable of receiving funding from new avenues.

There is the potential for this to happen more often as India becomes more prominent in the global research funding arena.

- **Openness to innovation:** India's dynamic economy and fast pace of entrepreneurship helps accelerate the introduction of ideas into the market. The UK can access the millions of aspiring entrepreneurs while the dynamic entrepreneurial spirit in India increases the potential for collaborative research to make a difference. The globally-renowned excellence of UK scientists and specialists in universities has consistently produced groundbreaking research. The UK is considered one of the top countries in terms of converting research and development (R&D) spend into successful commercial enterprise.

IMPACT ON POLICY

- **Administrative best practice:** Working internationally enables learning at an administrative level between the research funders. Administrative policy and practical working styles are instrumental in developing international collaborations; and shared understanding and trust in such partnerships has long lasting effects.
- **Capacity to influence policy:** UK- India collaborative projects often develop through discussions on problems of national or international importance – the research, therefore, has a built-in potential to directly influence policy makers.

IMPACT ON SOCIETY

- **Exposure to new cultural context:** Collaborative working between the UK and India creates a more in-depth understanding of cultural contexts. This stimulates novel research questions and new avenues to be explored. If the context for the research outcomes is well understood it can further drive translation of research into the relevant final product and is more likely to have an impact.
- **New mechanisms and thinking:** Sometimes the UK and India have different working styles and collaborating together on projects can often encourage new thinking. UK-India collaborations have, for example, led to the development of new decision-making tools as well as deepened insight into broader strategies, thereby creating platforms for innovative leadership training.
- **Brand value:** The UK and India coming together in jointly funded partnerships brings a high-profile 'brand value' to the collaboration, increasing the opportunity of access, publicity, awareness and ultimately potential for wider impact in both countries.

IMPACT ON EDUCATION

- **Strengthening the student base:** UK-India collaborative research helps form partnerships between the most excellent academic institutions in both countries. This encourages the mobility of students as well as excellent researchers between the UK and India. The exposure to new research methods and challenging research questions naturally benefits both undergraduate and postgraduate students in both countries.
- **Engagement with industry:** Industrial placements can give students an important hands-on insight on the potential impact of their fields of study. If this is done internationally, it will further enhance their understanding of their sector from a global perspective.
- **Strengthening personal skills:** Working internationally has often enabled those involved to contribute to policy in new or high profile ways, adding to the overall 'personal skills' of each country. For instance, researchers have been employed as advisors to foreign governments or become part of advisory groups to donor agencies based on the experiences from their involvement in international research collaborations.

IMPACT ON DIPLOMACY

- **Promoting diplomatic relations:** UK-India diplomatic relations have been significantly strengthened by the progress the two countries have made together in the field of science and research. Often, very difficult foreign policy discussions and relationships are first facilitated through shared research agendas. For example British Chevening Scholarship holders partly build UK-India 'goodwill' and thus support British Foreign and Commonwealth Office strategic priorities that focus on deepening relations between the UK and India. They also build capacity of future leaders in India.

IMPACT ON GLOBAL ISSUES

- **UK-India collaborations address global issues:** UK-India partnerships often focus on research of global relevance, as they are tied to the strategic priorities of both countries. The two countries are working together on global research challenges such as tackling climate change, combating infectious diseases, addressing poverty and inequalities, threats to energy and food supplies, and ensuring security and prosperity.
- **Global outreach from UK-India partnerships:** Focusing on globally important topics means research has the potential to have an impact beyond India and the UK. The fact that UK-India partnerships are 'North-South' partnerships enhances the likelihood of globally relevant outcomes, as the range of inputs and the scope of applicability are wider. For example, crop science research between UK and Indian partners may be more relevant to African countries than UK-only research in this area.

Barriers and Enablers to UK-India Collaborative Research

The UK and India share a long history of collaboration in research and recent successes show that this relationship is further developing extremely positively. Experience highlights a range of benefits of such collaborative research as discussed earlier in this document; but it also reveals barriers that can arise during various stages of collaboration; from exploring the initial idea of research to creating impact from the research. Below is a list of such barriers identified at the UK-India Impact Symposium and corresponding enablers discussed as ways to overcome these barriers.

LACK OF AWARENESS OF, AND ACCESS TO, THE RIGHT PARTNERS

Many UK-India research collaborations have experienced difficulties finding and sustaining the right partners for their project. The mechanisms for developing and maintaining partnerships could be improved in both countries – right from planning of the research ideas to the research itself; and in generating impact from that research.

Views on how to find and sustain partners for UK-India collaborations are:

1. It is crucial that in the early stages of collaboration, there is sufficient investment, of both time and money, to focus on building the right team. This includes private sector partners, who should ideally be involved from the beginning of the collaboration.
2. Once the research team is formed, collaborators should recognise the various phases in their project plan and utilise the flexibility in their research grants to ensure they visit each other. Face to face contact is of key importance to a successful collaboration.
3. Use of new technologies should be encouraged. Social media (such as professional networking websites e.g. www.linkedin.com) can be used to initiate contact. There is a wealth of audio-visual tools (e.g. www.youtube.com) that can be used to increase awareness prior to establishing the collaboration.
4. First time collaborators should take the time to understand each other's processes and ways of working from the very beginning. This helps build trust and develop an understanding on what works best and what does not. For example, favoured ways of communicating can differ with some preferring to speak over the phone rather than using email.
5. UK researchers should use the local knowledge and expertise of the UK Science and Innovation Network - (<http://ukinindia.fco.gov.uk/en/about-us/working-with-india/KnowledgeEconomy/>)

science-innovation-network/) in India to find the most relevant Indian partners. For example, India has many centres of excellence besides the most obviously known institutions like the Indian Institutes of Technology (IITs) and Indian Institute of Science (IISc) that are sometimes overwhelmed with approaches from potential collaborators.

PRACTICAL BARRIERS TO MAINTAINING CONTACT WITH PARTNERS

Discussions at the UK-India Impact Symposium highlighted that practical barriers around distance and communication can be significant in developing and maintaining a UK-India partnership. For example, both UK and Indian researchers have faced challenges when trying to obtain a visa which further hinders the collaboration process.

Suggestions on how to maintain contact with partners are:

1. Investment in infrastructure to support large-group, high bandwidth interactions over the internet could make a huge difference to the levels of interaction, including allowing various parts of research teams to engage with each other without spending large sums of money and time on travelling.
2. Existing technology can help maintain communication channels. For example, 'Skype', video conferences, teleconferences, 'You Tube', social networking sites, or secure shared websites can provide continued low-cost interactions between international partners.
3. Understanding each other's calendars and yearly schedules. For example, for UK academics, September can be an excellent time to travel or participate in workshops and conferences. This may not be the case for Indian colleagues. Similarly, there are times in the calendar that are better for Indian academics to travel, but these might not be so convenient for the UK. Join UK-India workshops or conferences are sometimes planned in one country on a day that is a national holiday in the collaborating country and therefore it is important to consult widely on dates for key events.
4. Some specific ways to overcome visa-related issues:
 - a. Applying early – Visas (to India or to the UK) should be applied for at least one month in advance of the planned travel. The majority of people who complain that they have had problems obtaining visas did not apply sufficiently in advance.
 - b. Knowing your visa category- It is also important to know what category of visa one should apply for. It was noted that many delays in visa processing took place due to confusion around visa categories. Clear guidance on these issues is available on the internet:
 - c. For UK visas visit the UK Border Agency's website (<http://www.ukvisas.gov.uk/en/>)

- d. For Indian visas visit the VFS Global website (<http://in.vfsglobal.co.uk/news.html>)
- e. UK researchers who are part of bona fide UK-India research projects should note that they can get a visa support letter from the British High Commission in India.

FUNDING AND RESOURCE CONSTRAINTS

One-off project funding can also sometimes be a barrier to developing longer term impact. This can be a particular issue in international partnerships where there is an emphasis on building and sustaining the research focussed links but little scope to extend this to 'what comes next'. Where follow-on schemes exist, they are often small and specific to a particular area or type of previous funding. It was also noted that industrial partners can be instrumental in enabling innovation and impact, yet the rules around involvement of industry in research projects can vary across different funders involved in international collaborations.

Suggested ways to overcome this are:

1. Research projects should be encouraged to think about the potential impact of their proposed research at the time of submitting a bid. For example, all RCUK-India funded projects are asked submit a 'pathways to impact' summary as a part of their research application. This document should detail the activities which will help develop potential economic and societal impact, answering the question 'What will be done to ensure that potential beneficiaries have the opportunity to engage with this research?'
2. Funders should consider where it might be possible to consolidate various proof-of-concept or follow-on funding schemes, and where possible make them applicable to international partnerships.
3. When considering joint schemes, funders from each country should consider how industry funding/sponsorship to the research projects could be facilitated, and make this clear in any application guidance.
4. It is important for researchers to take the time to scope out the various pots of money available – not only within their own country but also internationally - to facilitate impact from the research. This should include looking for schemes or opportunities to better publicise their research and to get research translated to policy.

CASE STUDY: LACK OF AVAILABLE DATA IN INDIA AND ACCESS TO POLICYMAKERS

Dr Penny-Vera Sanso (University of London) undertook a project 'Ageing, Poverty and Neoliberalism in Urban South India' that analysed the circumstances of the older urban poor in Chennai within the wider context of urban poverty. Like other parts of India and the developing world, Chennai's population structure is rapidly ageing. Chennai has been successful in diversifying its economy and drawing in foreign direct investment. The overall aim of the project was to understand how the older urban poor fit into such a context, in order to draw conclusions relevant in Chennai and elsewhere.

In India, old age is deemed to be a social welfare issue so the needs and the impact of economic policies and urban planning on older people are not considered beyond suggestions for dealing with their frailties (old age homes, seats on buses). The lack of readily accessible large scale data on the circumstances, needs and contributions of older people makes it particularly difficult for policy makers to see that older people have rights as workers, householders, citizens etc. Further, institutional restraints inhibit policy makers and planners working towards 'joined up policies' that include older people, especially the older urban poor, as active participants in the economy.

One innovative method employed by Dr Vera-Sanso in India to get the research into the public domain and as a means to access policy makers was to hold photo exhibitions. It was difficult to raise the interest of those who might provide practical and financial support for this. She also found it difficult to find highly regarded publishers that publish cheaply in India and other developing countries. She collaborated with the Centre for Law, Policy and Human Rights Studies, Chennai, in the research and with Help Age India and HelpAge International (HAI) all of whom were particularly helpful in presenting arguments for a universal pension to campaigners, activists and policy makers. Findings from the project have been used in HAI's publication on decent work for older people which helped to disseminate findings to non-academic networks.

CULTURAL AND CONTEXTUAL BARRIERS

It is essential for both researchers and funders to understand and appreciate the often diverging needs, different cultural nuances, and differing policy contexts between the UK and India. Ignorance of these issues can hinder the building of agreements including Intellectual Property Rights (IPR) mechanisms and Memoranda of Understanding (MOUs). For example, discussions at the symposium highlighted a difference (some subtle, some stark) in 'flexibility' between the UK and Indian funding and higher education systems, potentially leading to misunderstandings and delays.

Suggestions on how to overcome these types of barriers included:

1. From the start of a new collaboration funders and researchers should take the time to understand the way different international systems work and how this might affect the research (e.g. 'milestone' planning while building a research proposal should include the time that internal approvals might take).
2. Researchers, who are building new collaborations, can approach organisations like the UK Science and Innovation Network (SIN) for a briefing on the differences between the systems in the two countries that might affect research.
3. From the beginning of a collaborative project there should be clarity of mission, for example on the activities of early career researchers involved in the projects, especially as expectations might differ in the UK and India. Mobility and scoping grants should be utilised to enable researchers and PhD students to travel and understand the research and the socio-economic and cultural contexts of their collaboration.
4. Both research funders and research applicants should consider budgeting and planning for activities that encourage trust and mutual understanding between Indian and UK researchers involved. This should include a range of activities including academic seminars and networking events.
5. Researchers should make use of best practice case studies that demonstrate 'pathways to impact' and 'translation of research'. The relevant research councils can assist with this.
6. Researchers should make a concerted effort to understand the market needs of both countries. The accepted models for transfer of knowledge and commercialisation of research outputs in one country may not easily address the 'context' of the other.

INTELLECTUAL PROPERTY RIGHTS (IPR) RELATED BARRIERS

Discussions at the UK-India Impact Symposium highlighted how people have different views on how easy, or not, it is to agree intellectual property arrangements but it was clear that disputes over IPR are a significant barrier. If not considered at the outset of the collaboration, IPR can take up a lot of time later and therefore, affect funders' confidence with regard to the risk involved in supporting any project.

Suggestions on how to deal with this barrier are:

1. Use of templates and examples of documents such as Memoranda of Understanding (MoUs), Non Disclosure Agreements (NDAs), and Intellectual Property Rights (IPR) agreements can aid initial collaborative discussions. These documents should be agreed early in the collaborative process.

2. The Lambert Tool kit <http://www.ipo.gov.uk/whyuse/research/lambert.htm> can be used when developing IPR agreements. This includes model agreements to facilitate collaboration between publicly-funded research organisations and industry.
3. Researchers should consult the UK and the Indian Intellectual Property offices (www.ipo.gov.uk and www.ipindia.nic.in) for country specific legal advice on IPR issues.

CASE STUDY: INTELLECTUAL PROPERTY RIGHTS CONSTRAINTS

The RCUK-DST funded India-UK Advanced Technology Centre (IU-ATC) in the Next Generation Networks Systems and Services project (see <http://www.iu-atc.com>) faced a number of IPR challenges concerning the development of organisational legal instruments for NDAs, collaboration agreements and mutual acceptable IPR agreements between India and the UK. The PIs in the project (Professor Gerard Parr at the University of Ulster and Professor Ashok Jhunjunwala of IIT Madras) and partners in the project spent a significant amount of time understanding the similarities and disparities between UK and India in terms of managing academia-industry-govt collaborations and IPR. They received excellent assistance and advice from British Telecommunications plc. (BT) which is the lead industrial partner in the IU-ATC. Following wide consultation over many months they were finally able to get the agreement signed off by all parties, including DST. BT now hold and manage the agreements for the entire consortium at no cost to RCUK or DST. This alone is a significant gesture of industrial engagement and support as it provides real benefits to all partners.

The project met significant IP challenges as it is one of the largest projects in existence between UK and India, and has a mix of large partners from the information and communications technology (ICT) industry, internationally renowned academic institutions and a number of spin-out companies. In addition, the funding agencies took different approaches to the management of IPR, with the UK funder devolving it to institutions and the Indian funder wishing to fully brief and approve such matters. The lead partners took a considerable amount of time to develop an acceptable agreement that had the support of all partners in both countries. The process was further compounded in that most academic institutions have their own devolved IPR management processes and legal procedures. Ensuring that individual institutions could take into account what is best for the whole group as well as the individual partner was a challenge. Furthermore, the issue of which legal system to adopt in the agreements, i.e. British, Indian, or European initially proved extremely difficult to get approved by the various technology transfer offices of all institutions, but this was achieved in the end, and the project now has a template scheme for managing IPR that could benefit others with large India-UK consortia.

LACK OF INCENTIVES TO COLLABORATE

Academics feel that there is a lack of incentives, on both personal and institutional levels, to participate in international collaborations. This is especially relevant to early career researchers who often feel pressured to build careers according to traditional publishing or 'track record' type measures. It was felt that often there are limited rewards to communicate research to a wider audience in a way that might create wider economic and societal impact. It was also highlighted that although there are many indicators for economic impact assessment, there are few indicators to assess the societal impact of research.

Recommendations on how to overcome this are:

1. Innovative ways to pool capital for proof-of-concept funding should be sought. A list of public sector organisations that fund technology start-ups in India can be found at - <http://www.venturecenter.co.in/funding/funding.php>. The 'knowledge transfer' portal of RCUK is useful for researchers in the UK - <http://www.rcuk.ac.uk/kei/ktportal/Pages/home.aspx>
2. Researchers should keep aside some ring fenced funding for communicating research within a grant proposal, and if already funded, exploring available schemes for knowledge exchange. For example, an RCUK funded project includes a section on 'pathways to impact' as part of all research proposals.
3. Experienced researchers should actively encourage early career researchers' involvement in collaborative research projects, even if in small ways (such as sharing information on new skills learnt or taking up small travel scheme grants).
4. Research funders should invest in building capacity of scientists/researchers to communicate research on science communication more widely.
5. It was also recommended that the Technology Strategy Board (TSB) in the UK (<http://www.innovateuk.org/>) and the Technology Development Board in India (<http://www.tdb.gov.in/>) should partner with the more basic research funders in international collaborations. Such collaborations might encourage companies to increase their participation in strategic programmes.

INTERDISCIPLINARY RESEARCH AND ITS CHALLENGES

The kinds of projects that bring Indian and UK researchers together through joint funding calls are often interdisciplinary in nature and can involve consortia of universities and industrial partners. Interdisciplinary work can be ambitious and difficult, with a strong social and cultural dimension. Challenges of team coherence and mission alignment can therefore arise and add to the complexity. This is true irrespective of who the partners are but the difficulties are aggravated by distance and by differences in the approach of the two university research systems.

Suggestions on how to overcome these challenges are:

1. Being inclusive and open to contribution from other disciplines including social sciences; arts and humanities from the outset.
2. Including representatives from civil society, policy makers, private sector, and finance on the project steering committee (or equivalent). This often introduces a 'real world' perspective and can encourage 'plain English' discussions. For example, the BioPharm 2020 advisory committee consists of people with a wide range of backgrounds: <http://biopharm2020.org/advisory-board.php>
3. Interdisciplinary projects require more infrastructural and organisational support in order to enhance their ability to deliver successful results.
4. Research teams should be aware of the reality and the context for the outputs of their research. For example the RCUK and DST can hold joint workshops in unusual locations (an RCUK/DST collaboration on Bridging the Urban and Rural Divide (BURD) held a workshop in a rural area in India), or participants from industry/ policy should be invited to participate in project workshops.

BARRIERS TO MULTILATERAL WORKING AND GLOBAL IMPACT

Limiting collaborative research to just UK and India could undermine the tackling of grand challenges that need other countries' participation

To overcome this barrier, it was suggested that:

1. The UK-India partnership should, where feasible and advantageous, be taken to multi-lateral level. This might be through including other Asia-pacific countries (e.g. water and climate change issues that include Indian-subcontinent countries), or through including countries where there is a particular expertise or real-world experience of a problem (e.g. encouragement of south-south partnerships in sustainable crop production partnership: <http://www.bbsrc.ac.uk/news/food-security/2011/110111-pr-developing-countries.aspx>).

EVENT FEEDBACK

The event was agreed to be informative and useful. The sharing of frank views and best practice was important to achieve the symposium's aims and objectives.

Participants were encouraged to think beyond disciplinary boundaries, and to forge new links with their counterparts in the other countries. A number of participants indicated that they had established links with potential collaborators, and in some cases had already begun to discuss joint projects, seminars and other collaborations.

A selection of feedback comments:

"To have representatives from SIN, RCUK, DST, British Council, ESRC and DFID all under one roof was just brilliant."

"It was interesting to hear some of the breadth of research interaction between the UK and India and to hear some of the specific experiences of both UK and Indian participants."

".....high calibre participants from UK and India..."

".....this has sparked many ideas...."

".... really stimulating.....such high quality participation from the Indian and UK sides"



Keynot Address: **Dr. T Ramasami**



Left to Right: British High Commissioner - **Sir Richard Stagg**; Secretary to India's Department of Science and Technology - **Dr T Ramasami**; and Adviser to Prime Minister in Public Information Infrastructure and Innovations - **Dr Sam Pitroda**



Sir Richard Stagg and **Dr T Ramasami** meeting participants at the symposium



The symposium in progress



Breakout session in progress



Panel discussion around Intellectual Property Issues in the UK and India



Representatives from Research Councils UK and UK Science & Innovation Network at the symposium

Annexure 1: Event Programme

UK-India Impact Symposium

MAXIMISING OUTCOMES OF UK-INDIA COLLABORATIVE RESEARCH

Dates: 8, 9 Dec 2010

Venue: Hotel Taj Mahal, 1, Mansingh Road, New Delhi

Programme:

DAY 1 Wednesday Dec 8th 2010		
1000	Welcome and setting the context	Dr Alicia Greated (Research Councils UK Office in India)
1005	Opening Remarks: UK-India relationship, and importance of Science to this	Sir Richard Stagg (British High Commissioner to India)
1010	Keynote speech: 'How to maximise impact of UK-India collaborative research'	Dr T Ramasami (Department of Science and Technology, India)
1025	Special address: 'India's Innovation Landscape and opportunities for UK-India partnerships'	Mr Sam Pitroda (Adviser to Prime Minister – Public Information Infrastructure and Innovations)
1040 - 1130	Plenary Session I: Impact - Understanding the benefits and barriers	Dr S Natesh (Department of Biotechnology, India) Dr David Secher (University of Cambridge, UK) Dr Vinita Sharma (Department of Science and Technology, India) Dr Guy Howard (Department for International Development, UK) Chair: Adrian Alsop (Economic and Social Research Council)
1130 - 1145 REFRESHMENTS		

1145 - 1300	Break-out Session I: Identifying the benefits and barriers to Impact in an international context	
1145 - 1300 LUNCH BREAK		
1400 - 1500	Feedback from breakout session – I:	
1500 - 1700	Plenary Session II: ‘Demonstrating the Impact’ (Case Studies) Moderator: Naomi Beaumont	
1500	UK-India Science Bridge-Bioenergy	Prof P K Sen
1520	UK-India Science Bridge-Biopharm 2020	Prof Kul Pawar and Ashwini Nangia
1540	Refreshments	
1600	UK-India Next Generation Networks	Prof Gerard Parr and Nader Azarmi
1620	UK-India project on Solar Energy-APEX	Dr Hari Upadhyaya and Dr Rajeev Jindal
1640	UK-India project on tracing pharmaceuticals in South Asia	Prof Roger Jeffery and Abhijit Das
1700	Concluding remarks	Andrew Jackson (British High Commission)
1930	Networking Reception and Dinner hosted by Sir Richard Stagg, British High Commissioner to India	
DAY 2 Thursday Dec 9th 2010		
0920	Introduction to Day 2:	Dr Alicia Greated

0930 - 1030	Plenary Session III: Working in partnership: Interacting with the Private, Public and the Third Sectors in the context of UK-India collaborative research	Jailendra Kumar (BAEs) Sanjay Gupta, Hole-in-the-Wall Education Ltd. (HiWEL) Joseph Thomas (Villgro Innovation) Dr Shailendra Vyakarnam (Judge Business School, Cambridge) Moderator: Sanmit Ahuja (ETI Dynamics)
1030 - 1130	Plenary Session IV: Intellectual Property – theory and reality	Dr Jim Houlihan (UK Intellectual Property Office) P H Kurian (Indian Patent Office) Prof Gerard Parr (IU-ATC) Chair: Rebecca Fairbairn (UK Science and Innovation Network)
1130 REFRESHMENTS		
1200 - 1300	Plenary Session V: Enabling Impact and Innovation Panel discussion on – What are the Creative mechanisms in India and the UK to enable impact?	Deepam Misra (I2India ventures) H.K.Mittal (Department of Science and Technology, India) V. Premnath (NCL Innovations) Kerry Albright (Department for International Development, UK) Moderator: Dr Sophie Laurie (Research Councils UK)
1300 - 1400 LUNCH BREAK		
1400 - 1530	Breakout Session-II: ENABLERS Building on existing networks and resources, propose the most productive and cost effective solutions and policy reforms to overcome these barriers	
1530 - 1630	Feedback from breakout session- II:	
1630 - 1700	Valedictory Session: Concluding remarks and Vote of thanks : Dr Alicia Greated	

Annexure 2: List of Participants

Organisation	Representative
AcceleratorIndia, UK	Dr Uday Phadke
Arts and Humanities Research Council UK	Pippa Craggs
BAE systems, India	Jailendra Kumar
British Council India	Dr Guru Gujral
British Council India	Dr Sushanshu Sinha
British Council India	Sally Goggin
British Council India	Anjum Kapur Kumar
British High Commission, India	Sir Richard Stagg
British High Commission, India	Vandita Tewari
British Science Association, UK	Sir Roland Jackson
Centre for Health and Social Justice India	Abhijit Das
Climate Change and Energy Unit, UK	Fergus Auld
Department for International Development, India	Dr Guy Howard
Department for International Development, India	Peter Evans
Department for International Development, UK	Kerry Albright
Department of Biotechnology, India	Dr S Natesh
Department of Science and Technology, India	H.K. Mittal
Department of Science and Technology, India	Dr Vinita Sharma
Department of Science and Technology, India	Dr A Mukhopadhyay
Department of Science and Technology, India	Dr Naveen Vasishta
Department of Science and Technology, India	Rajiv Kumar
Department of Science and Technology, India	Shashi Bhushan
Economic and Social Sciences Research Council, UK	Adrian Alsop
Edinburgh Research and Innovation Ltd, UK	Sarah Anderson
Edinburgh Research and Innovation Ltd, UK	Mairéad Brodie

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...contd

ETI Dynamics, UK	Sanmit Ahuja
Former Head, Nature India	Jaishree Srinivasan
Hole-in-the-Wall Education Ltd., India	Sanjay Gupta
I2india ventures, Bangalore	Deepam Misra
Indian Council of Medical Research	Dr Prashant Mathur
Indian Institute of Technology – Delhi	Prof Bishnu Pal
Indian Institute of Technology – Delhi	Prof P.K.Sen
Indian Patent Office	P H Kurian
Intellectual Property Office, UK	Dr Jim Houlihan
Moser Baer Ltd, India	Dr Rajeev Jindal
National Innovation Council, India	Dr Sam Pitroda
PraxisUnico, UK	Dr David Secher
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