A Study of European Researchers working in and collaborating with India

In preparation for the launch of EURAXESS Links India

(A networking tool for European researchers with links to India)

Final Report

Study commissioned by:

European Commission, Directorate-General for Research

Delegation of the European Union to India

Survey conducted and report produced by:

the evaluation partnership

A Study of European Researchers working in and collaborating with India

Final Report

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June 2010

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1 EXECUTIVE SUMMARY

1.1 Introduction

The purpose of the EURAXESS Links network is to provide information about European research policy, opportunities for research funding, international collaboration and international mobility. The European Commission's Directorate General for Research (DG Research) and the Delegation of the European Union to India in collaboration with the Embassies of the EU Member States in India launched this study to establish whether there would be demand for a EURAXESS Links network in India. The primary target groups for a EURAXESS Links India network are European researchers working in India and European researchers who travel to India frequently for professional purposes (so called "commuters").

The focus of this study was to learn more about the characteristics of European researchers with links to India and to investigate what can be done to facilitate their research work in India. Potentially there is a lot to be gained in both the EU and in India from facilitating research cooperation and collaboration. The main element of the study consisted of a survey designed to identify the types of information and services that could assist European researchers with links to India. Further insight into the opinions and perceptions of European researchers was gathered via a telephone interview programme with 21 researchers (based in Europe and in India). Evidence from the survey and the interview programme has been used to formulate a set of conclusions and recommendations.

1.2 Approach and Methodology

1.2.1 Online survey

The survey was structured into four sections, each exploring different issues pertinent to the development of the EURAXESS Links India network. Respondents were asked to reply to a series of questions under the following headings:

- Background information (including separate sections for India-based and Europe-based researchers);
- Information and Services for European Researchers;
- Experience in Europe-India Research Collaboration;
- Researcher Profile.

The survey was conducted online and was developed by The Evaluation Partnership working in close conjunction with the Delegation of the European Union to India and Unit C.4 of DG Research. It was officially launched on Monday 15th February 2010 and kept open until Friday 23rd April 2010. The survey was targeted at the following three groups:

- European researchers currently working in India;
- European researchers who travel to India frequently (so called "commuters"); and,
- European researchers interested in working with India in the future.

A range of channels was employed to target the three groups: emails promoting the survey were sent to relevant societies and organisations dealing with research known by the Delegation (research agencies and institutes, companies, bilateral research cooperation programmes, universities, etc.) in order to reach as many European researchers as possible. This also included dissemination via the EURAXESS Network, the Strategic Forum for International S&T Cooperation (SFIC) and the Steering Group on Human Resources and Mobility (SGHRM).

The survey was also promoted through the Science & Technology Counsellors of the EU Member States and through the help of Indian authorities. In addition, promotional emails were sent to the European Commission Delegation's mailing list of researchers in India, and the evaluation team sent additional promotion emails to a number of European research centres and universities based in Europe. The link to the survey was also published on the websites of a number of relevant organisations.

A total of 466 researchers responded to the survey.

1.2.2 Telephone interview programme

Following the online survey the evaluation team conducted a series of telephone interviews, within the timeframe of 20th April 2008 to 10th May 2010, with European researchers either based in India or in Europe. These interviews served the following purpose:

- To further enhance the findings from the online survey;
- To gain a deeper understanding of what researchers would want from a EURAXESS Links India network.

The evaluation team, in cooperation with the European Commission's Directorate General for Research and the Delegation of the European Union to India, developed a set of criteria in order to choose interview partners among the survey respondents. The criteria were as follows:

- Balanced nationalities;
- Balanced career stages;
- Balanced fields of research;
- Balanced gender mix;
- Balanced mix of researchers based in India/based in Europe;
- Geographical spreading for those researchers based in India (i.e. considering researchers based all over India, not only in Delhi);
- Mix of sectors (public and private sector)

A total of 18 European researchers based in India or Europe, as well as a small sample of three Indian researchers based in Europe, were interviewed.

1.3 Presentation of Findings

The European Commission and the Delegation of the European Union to India invited The Evaluation Partnership (TEP) to present the findings of the survey of European researchers and

the telephone interview programme in India at an event in Delhi on the June 4th 2010. The audience at this event included representatives from Member State Embassies, Member States' Science and Technology Counsellors, officials from the Indian Ministry of Science and Technology and other ministries, Professors from Indian and European universities and representatives of Indian and European research organisations, European companies with R&D activities in India as well as respondents of the surveys themselves, Indian researchers participating in the EU FP7 research projects and Indian research organisations hosting European researchers. Representatives of the European Commission's India Pilot Initiative (IPI) were also present on the day.

The event provided additional insight into the opinions and perceptions of the research community towards the proposed EURAXESS Links India. The final version of this report takes account of the comments and feedback received at this event.

1.4 Conclusions

1.4.1 There is a great deal of enthusiasm among European researchers working in and commuting to India about the EURAXESS Links India network

- 88.4% of respondents to the survey are interested in being kept up to date on the development of the EURAXESS Links India network.
- 91% of survey respondents have already given their consent to being included in a contact database of European researchers with links to India.

1.4.2 Profiles of European researchers working in and commuting to India are diverse but share a number of characteristics

- The survey reached 466 researchers, of which 300 (67%) are based in Europe, 141 (31%) are based in India and 25 based (2%) elsewhere.
- Of the 312 respondents who stated their nationality, the majority are European (81%), 14% are Indian and the remaining 5% of respondents are nationals of other countries including America, Pakistan and Israeli. Among the European respondents the highest proportion are from Western Europe (39%) followed by researchers from Northern (28%) and Eastern (20%) Europe. The smallest number of respondents is from Southern Europe (14%).[1] The majority of the EU-based respondents were of French or German nationality, followed by Swedish and Bulgarian.
- Senior researchers made up the largest group of respondents to the survey. They were over-represented with 50% of survey respondents indicating to work at this research

[1] Eastern Europe: Czech Republic, Bulgaria, Hungary, Poland, Romania, Slovakia. Northern Europe: Denmark, Estonia, Finland, Ireland, Latvia, Lithuania, Sweden, UK. Southern Europe: Greece, Cyprus, Italy, Malta, Portugal, Slovenia, Spain. Western Europe: Austria, Belgium, France, Germany, Luxembourg, Netherlands. Based on UN macro-geographical regions http://millenniumindicators.un.org/unsd/methods/m49/m49regin.htm#europe

level. Pre- and post-doctoral researchers were less represented (16% and 14% respectively), as were researchers who described themselves as belonging to the "Other" category (21%)[2].

- The table below summarises the generic profile of survey respondents:

Table 1 Generic profile of respondents

All researchers	Generic profile of respondents
Research Position	Majority of senior researchers (50%), pre- and post doctoral researchers accounted for 16% and 14% respectively.[3]
Field of research	Natural sciences[4] represented (51%), followed by social sciences and humanities (27%) and engineering (6%)
Place of work	Universities and public sector research institutions (88%), few researchers working in the private (6%) and third[5] sector (3%).
Location	Respondents mainly based in Europe (67%), fewer researchers based in India (31%) and internationally (2%).
Nationality	Majority of researchers are European (81%), with a small number of Indian researchers (14%) and 5% of other nationalities[6]. French (15%), German (11%) and Swedish (9%) were the most represented nationalities among survey respondents. Among European researchers a high proportion is from Western Europe (39%). Fewer researchers from Northern (28%) and Eastern (20%) Europe. Smallest number from Southern Europe (14%).[7]
Gender	Over-representation of male researchers (71%), with female researchers accounting for 29%.
Age	Similar representation of age groups, with fairly balanced number of 25-35 year olds (23%), 36-45 year olds (30%), 46-55 year olds (25%) and 56+ year olds (22%).

[2] This category largely consisted of researchers affiliated with universities, such as professors or assistant/associate professors as well as researchers and students of unknown academic level. A small proportion of respondents to the "Other" category were researchers in the private sector working for institutes and companies in the technology and R&D sector.

[3] Approximately 20% of the survey responses have indicated "other" when asked about their position. Answers provided included amongst others: Director of research institution, student (stage not given), retired worker and entrepreneur.

[4] Natural sciences include: chemistry, earth sciences, environment, food/agriculture/fisheries, Life sciences and biotechnology, physics, nanotechnology and material science, space. Please note that although fisheries can be classified under applied sciences, the field of food/agriculture/fisheries has been included under natural sciences in this report as food science is classified as a natural science.

[5] Non-governmental organisations

[6] These figures are based on the 312 respondents that have stated their nationality.

[7] Eastern Europe: Czech Republic, Bulgaria, Hungary, Poland, Romania, Slovakia. Northern Europe: Denmark, Estonia, Finland, Ireland, Latvia, Lithuania, Sweden, UK. Southern Europe: Greece, Cyprus, Italy, Malta, Portugal, Slovenia, Spain. Western Europe: Austria, Belgium, France, Germany, Luxembourg, Netherlands. Based on UN macro-geographical regions http://millenniumindicators.un.org/unsd/methods/m49/m49regin.htm#europe

1.4.3 Respondents are very keen to develop their network of contacts in India and seek assistance in developing their careers and fund their research

- A key conclusion from this study is that European researchers working in collaboration with India currently lack a resource to provide them with the information and services that they are seeking.

- The most valuable types of information and services to survey respondents are:

    - Sources of funding from Europe and/or from India
    - Europe-India cooperation opportunities
    - Funding search tool
    - Email alerts for European calls for proposals, fellowships, job opportunities etc
    - Increased contacts with Indian researchers and organisations
    - Contact database
    - Visiting professorships
    - Scientific conferences

- Researchers are most likely to be motivated by the opportunity to build their professional networks, rather than increasing their social networks.

- The services and information most likely to be perceived as very useful by survey respondents are primarily internet based.

1.4.4 There is a high level of interest in research collaboration between the EU and India

- There is a very high level of interest in collaborating with researchers both in India and Europe in the future (96% and 93% of respondents claimed to be interested in this type of research collaboration respectively).

- The most likely way for European researchers in India to access information about research opportunities is through colleagues and friends and via the internet (either through university/research institution websites and internet search engines). These results suggest that initiatives such as a database of contacts, an application hosting researcher opportunities and a resource for providing further information would be highly relevant to the researchers.

- Evidence from the study suggests that a EURAXESS Links India Network could facilitate future collaboration and provide the types of information and service that do not seem to be widely available or accessible to researchers.

1.4.5 Currently, the number of European researchers based in India is low compared with the numbers in Japan and particularly in the US. However, this number is expected to increase.

- Currently there are a relatively low number of European researchers based in India. However, according to many of the stakeholders consulted as part of this study (through the survey, interview programme and at the event held in Delhi) this is expected to change in the coming years.

- In addition, research suggests that there is a faction of researchers who travel frequently to India for their work – so called "commuters", representing an important target group for the proposed EURAXESS Links India network.

- Research collaboration between India and Europe has become increasingly important particularly over the last five years. Those consulted as part of this study suggest that over this period of time that there have been a growing number of opportunities for European researchers in India.

- While numbers of European researchers collaborating with India are expected to rise the study has identified some of the difficulties encountered by European researchers in research collaboration with India (potentially, difficulties that a EURAXESS Links India network could help overcome):

    - There are major differences in the culture and ways of working between the EU and India. It is widely recognised that these differences can make collaboration more difficult and time consuming.

    - There are discrepancies between the European and Indian research environments, such as administrational burdens and a perceived lack of transparency of rules and regulations.

1.5 Recommendations

- It is recommended that the development of the EURAXESS Links India network should continue, as there is clearly a great deal of interest from European researchers based in India and in Europe. The large number of survey respondents as well as the high representation of researchers working at different levels makes a strong case for the feasibility of offering information and services targeted at European researchers with links to India.

- It is recommended that EURAXESS Links India provides information and services to researchers based in India as well as to those based in Europe who frequently travel to India for their work – the "commuters". The profile of respondents demonstrates that there is interest from both these target groups.

- It is recommended that information and services are designed primarily to provide information and assistance on finding research funding, and on increasing opportunities to build links and networks with Indian researchers and scientific organisations.

- It is recommended that in the longer term the profile information uncovered by this survey should be used to provide information and services to specific target groups of

researchers, such as researchers working in specific research fields, researchers at different stages in their careers etc. While enabling the establishment of contacts between researchers in radically different disciplines may not be viewed by some as very useful, taking too much of a targeted approach should be considered carefully particularly to avoid the risk of a fragmented network early on. As the number of European researchers in India and those collaborating with India is relatively low at present, particularly in comparison to European researchers in the USA involved in EURAXESS Links USA, it is recommended that a critical mass of researchers is established before extensive efforts to target commence.

- It is recommended that initially the EURAXESS Links India network is administered and maintained in a similar way to the networks in the US, Japan and China. Where possible, the network should also provide the functionality for users to generate content.

- While the network should target researchers at all career levels, the particularly strong interest of pre-doctoral researchers should be considered when developing initiatives such as events and newsletters.

- As the services and types of information most likely to be perceived as very useful by the respondents are primarily internet based, the network should at least partly focus on a variety of internet-based tools and services, to adapt to the researcher's strong use of the internet.

- Due to the importance of networking to developing a career in research, it is recommended that in addition to web-based tools, specific events such as work shops and seminars be established and promoted via the EURAXESS Links India. These should focus on ways of furthering a career in research and/or provide information on how to apply for European funding programmes. Events should focus on leveraging the types of information that researchers find truly useful, such as obtaining funding for their research as well as having a social element.

- There is a high level of interest in a contact database for European researchers. It is recommended that the contact database be made as relevant to researchers as possible, by including for example detailed information on each researcher's specialist field and their publications. This will make it easier for researchers to find other researchers with a profile similar to their own for networking purposes.

- It is recommended that the information and services are promoted in a way that makes it clear to the target groups what they can expect to gain from participating in the network. The website could for example be organised to give an overview of different tools that will allow researchers to obtain assistance in key areas such as identifying sources of funding and careers information.

- It is recommended that the network develops facilities that support collaboration and networking within research fields to help researchers to form sustainable working relationships within their field of research, in addition to broader networking tools and initiatives aimed at strengthening research collaboration between the EU and India in

general. Facilities could include thematic online discussion fora, an additional feature of the contacts database where researchers can specify their exact field of interest as well as a keyword search tool to search for potential research partners in a specific subject area, and thematic researcher events on specific topics.

- Collaboration can be supported through the network in addressing the above difficulties by providing information on the named differences between the European and Indian living and working environments and suggestions on how to prevent and overcome common difficulties.

2 INTRODUCTION

This report is the final deliverable submitted in the context of the study on the feasibility of a EURAXESS Links network in India. It summarises the results of the work undertaken in this study and presents the evaluation findings as well as the conclusions and recommendations.

The Annexes to this report are presented in a separate document.

2.1 Context of the evaluation

2.1.1 EURAXESS Links USA

The European Researchers Abroad-Link (EURAXESS Links, formerly known as ERA-Link) was officially launched in early 2006 to help US-based European researchers stay in contact with the research scene back home. The launching of this initiative was preceded by an online survey exercise of potential users of EURAXESS Links, conducted by The Evaluation Partnership in conjunction with DG Research, the EU Delegation and EU Member State Science and Technology Counsellors in Washington. The survey was aimed at understanding what types of information and services the network might provide to European researchers in the US. In the two years since its launch, the initiative has been meeting its objectives. The current network – which is intended to provide support to the circa 100,000 European researchers working in the US – has not only grown in membership[8] but has also been granted additional funding.
EURAXESS Links focuses on three types of activities: networking of researchers, information dissemination and helping expatriate researchers to collaborate with colleagues in Europe or to return to rewarding careers in Europe. On-going activities include a website providing targeted information; a regular flow of information to members signaling job, funding and collaboration opportunities; and occasional meetings and events. Future plans include the production of a newsletter, an upgrading of the website, a renewed outreach campaign, a number of meetings and events across the United States, and a more structured participation in career fairs.

2.1.2 EURAXESS Links Japan

The successful launch of EURAXESS Links in the USA led DG Research to evaluate its expansion to other countries/regions, starting with Japan. Even though the size of the European community of researchers in Japan – estimated in 8,000 researchers – is significantly lower than in the USA, Japan is a major country in terms of research and innovation with which Science and Technology cooperation is not fully exploited.

Once again the initiative was connected to the idea of a mutually beneficial 'brain circulation' and to highlighting the benefits of the outflow of scientific talent. The intention of EURAXESS Links Japan was to provide web based and other services for researchers who are interested in strengthening their contacts with other European researchers in Japan and Europe. This platform could ultimately serve as a vehicle to connect such network with Japanese researchers

[8] Current membership – which is free of cost – is estimated to exceed the 3,000 members.

working in Europe. This project has been conceived by the European Commission in collaboration with Embassies of the EU Member States in Japan.

Ahead of such expansion, a survey of similar characteristics to that performed in the USA prior to the launch of the EURAXESS Links USA network was conducted to assess the landscape of EU researchers in Japan and to understand the nature and the needs of this target audience. In particular, the survey aimed to provide useful insights to find out how the network should be developed and the types of information and services that would be useful to European researchers. The survey was closed on 30/09/2007 and the results of the analysis were presented in Tokyo in November 2007. The European Commission, in collaboration with the EU Member States, launched the new EURAXESS Links Japan network in June 2008.

2.1.3 EURAXESS Links China

Although the community of European researchers in China is still modest, China's total research expenditure is planned to overtake that of Japan in 2008 (measured in purchase power parity USD). Additionally, cooperation between China and the European Union is becoming stronger and more strategic.

Following on from the successful launch of EURAXESS Links networks in the US and Japan, in late 2007, DG Research and the Delegation of the European Commission to China began looking into the feasibility of a similar network in China. In 2008, DG Research commissioned The Evaluation Partnership to carry out a study to identify ways of developing the network and to find out what types of information and services would be useful to European researchers based in China.

A survey was developed with the aim to gain insight into how the network should be developed and the types of information and services that would be useful to European researchers in China or frequently travelling to China for professional reasons. The survey was closed on 20/03/2008 March and the results of the analysis were presented in Beijing in May 2008. The European Commission, in collaboration with the EU Member States, launched the new EURAXESS Links China network in December 2009.

2.1.4 EURAXESS Links India

The community of European researchers is also growing in India; research collaboration between India and Europe is becoming more important and the interest in a stronger cooperation across different fields of research is increasing on both sides. As stated in "*The European Union and India – A Dynamic, Strategic Partnership*": *"India's growing geostrategic importance, its robust growth rates and attractive human resource capital have led many European companies to make it their second home. (…) Leading European companies such as SAP, Philips, Mercedes Benz and Shell have established major R&D centres in India."*[9]

This, as well as the experience of the successful launch of EURAXESS Links networks in the US, Japan and China led the European Commission to India in late 2009 to consider the idea of undertaking research on the feasibility of creating such a network for India. Following on from

[9] *The European Union and India – A Dynamic, Strategic Partnership,* published by Stroudgate (www.stroudgatenet) (2009)

this, The Evaluation Partnership was commissioned in December 2009 to undertake a study of European researchers working in and collaborating with India.

2.2 Rationale and objectives of the study

In preparation for launching a study on the feasibility of EURAXESS Links India, three target groups for a potential EURAXESS Links India network were identified by DG Research and the Delegation of the EU in Delhi. The target groups include:

- European researchers working in India;
- European researchers who travel to India frequently (so called “commuters”), who are in contact with Indian researcher, and
- European researchers and research organisations interested in working with and collaborating with Indian research organisations and researchers.

The main objective of this study was to find out whether there is significant interest in the EURAXESS Links India network among the three target groups identified. More specifically, the focus of this study is to:

- Provide insights into the interest of EU researchers for EURAXESS Links and the types of services or information that DG Research (RTD) needs to provide to attract on-going use of the intended tool;
- Develop an extended database of EU researchers in India and across Europe. It is envisaged that the database would include contact details and profile information on researchers;
- Generate publicity among the researcher community both in India and in Europe by attracting media and internet coverage of the proposed EURAXESS Links network tool;
- Provide insights into the awareness of EU researchers on European policy and instruments.

3 SURVEY APPROACH AND METHODOLOGY

3.1 Preparation and Launch

The survey was conducted online and was developed in close cooperation between The Evaluation Partnership, DG Research of the European Commission and the Delegation of the European Union to India. Before the official launch of the survey, a draft version was circulated among Commission officials within DG Research as well as within the Delegation in order to receive their feedback and input for improvement of the survey. This approach ensured that a large number of views from different stakeholders were taken into account before the survey was formally launched.

The survey was officially launched on Monday 15th February 2010 and was kept online until Friday 23rd April (9 weeks).

A range of methods were employed in order to reach as many European researchers as possible who comply with the set target groups. emails promoting the survey were sent to relevant societies and organisations dealing with research known by the Delegation (research agencies and institutes, companies, bilateral research cooperation programmes, universities, etc.) in order to reach as many European researchers as possible. This also included dissemination via the EURAXESS Network and the Strategic Forum for International S&T Cooperation (SFIC). The Steering Group on Human Resources and Mobility (SGHRM) with representatives responsible for researchers' mobility in the Ministries of Research in 39 countries (27 MS + 12 Associated Countries) also supported the dissemination of the online survey.

The survey was also promoted through the Science & Technology Counsellors of the EU Member States and through the help of Indian authorities such as the Indian Department for Science and Technology. In addition, promotional emails were sent to the European Commission Delegation's mailing list of researchers in India, and the evaluation team sent additional promotion emails to a number of European research centres and universities based in Europe. The link to the survey was published on the European Business and Technology Centre's (EBTC) website as well as on the website of the India-EU Study Centres Programme (IESCP).

All recipients of the promotional email were asked to promote the survey among EU researchers linked to India. The evaluation team sent additional promotion emails to a number of European research centres and Universities based in Europe.

3.2 Random Sampling

A random probability method of sampling was used, with no groups of researchers being consciously targeted more than others or given different weightings in the final analysis of the results.

Due to the lack of any database of contacts for European researchers in India, it is difficult to say whether the sample of researchers reached by the survey is truly representative of the community of European researchers in India or those travelling regularly to and from India.

However, even though the evaluation team does not claim that representativeness of the survey results is absolute, it feels justified in having employed as random a method of sampling as possible, with the promotion of the survey assured through the institutions most likely to be in contact with European researchers in or linked to India.

Since the survey contained several open-ended questions and answers were not compulsory to every single one, not all survey respondents have replied to each question. Where there was a significant difference between survey respondents in general and respondents to specific questions, the evaluation team made an annotation in the text or on the graph.

The evaluation team also tried to overcome any possible gaps in the survey by carrying out 20 telephone interviews with survey respondents in order to gather their views and opinions for the EURAXESS Links India network in more detail, encouraging them to go beyond the scope of the survey questions in order to add value to the study. The questionnaire of the interviews can be found in Annex 3.

The lack of a comprehensive database of European researchers in India leads to the fact that the accuracy of calculating of a margin of error for the survey is uncertain. Although the survey has been widely distributed among European researchers in India and Europe, there is still the possibility that groups of European researchers linked to India were not reached by the promotion of the survey, by oversight or shortage in the distribution channels. The impact of these options, however, is impossible to calculate and to assign a numerical value.

As the number of researchers responding to the survey was large (466 researchers responded), a generic margin of error can be assigned to the survey on this basis, even though the above mentioned reservations must be kept in mind. Assuming an infinite population size, the margin or error for a sample of 466 respondents is calculated at around +/- 5% for a confidence level of 95%. This assumes with a likelihood of 95% that the results from this survey are accurate within +/- 5% of the final results. Obviously many questions were not answered by all respondents and this directly affects the confidence level and confidence interval. For example, if a question is answered by approximately 300 respondents the margin of error rises to +/- 5.5% for a confidence level of 95% and where there are approximately 170 respondents it rises again to +/- 7.5%.These margin of error calculations should be kept in mind when examining the survey results.

Forty three of the survey respondents stated to be of Indian nationality. An additional 16 researchers who responded to the survey were from outside of the EU. Nine of these were from other European countries (Sweden and Norway) with seven researchers coming from outside of Europe.

Please note that preferences of European researchers in India and Indian researchers in India were to a large extent in line with each other and with the preference of the overall sample of the 466 survey respondents. However, in order to adequately reflect the profile of European researchers, the responses of Indian and European researchers based in India have been analysed separately for some of the survey questions.

3.3 Analysis of Results

The analysis of the survey results was conducted by first examining the aggregate responses to the survey, then using data gathered on the background and profile of the researchers to perform an analysis of whether there are significant differences between the responses of different groups of researchers, differences between gender as well as differences between researchers based in India and in Europe.

Differences in types of responses were found to be greatest between researchers who are at various stages in their research career. The research position either being pre- or post doctoral or at a senior level was in many cases likely to determine the researcher's response to a question. Another influence on the responses of researchers is the gender. Significant differences were found between male and female respondents. Finally, the location of respondents (Europe based or India based) was another determining factor for differences in types of responses to some questions.

The indication "n =" under each graph shows the exact number of respondents to each individual question.

This Final Report presents a summary of the key facts and figures uncovered by the survey reports and further develops the main implications of the findings. The report provides conclusions ad recommendations related to three key areas:

- The profile of European researchers linked to India;
- The types of information and services that European researchers are likely to be interested in the most;
- The knowledge of European research among European researchers linked to India.

4 RESEARCHER PROFILE

4.1 Key Facts and Figures

4.1.1 Aggregate findings

A total of 466 researchers responded to the online survey.

While there were a wide range of researchers who responded to the survey the analysis reveals certain shared characteristics among respondents. The profile of respondents provides a good basis for the types of European researchers most likely to be linked with India, as well as trends in the research environment among European researchers related to India.

The table shown below provides a summary of the generic profile of survey respondents and is based on their responses to the questions in section one (Background Information) and section four (Researcher profile) of the survey. The table also shows the profile of respondents based in India and those based in Europe.

Table 2 Generic profile of respondents – Aggregate findings

All researchers	Generic profile of respondents
Research Position	Senior researchers (50%), pre- and post doctoral researchers accounted for 16% and 14% respectively.[10]
Field of research	Natural sciences[11] over-represented (51%), followed by social sciences and humanities (28%) and engineering (6%)
Place of work	Universities and public sector research institutions (88%), few researchers working in the private (6%) and third[12] sector (3%).
Location	Respondents mainly based in Europe (67%), fewer researchers based in India (31%) and internationally (2%).
Nationality	Majority of researchers are European (81%), with a small number of Indian researchers (14%) and 5% of other nationalities[13]. French (15%), German (11%) and Swedish (9%) were the most represented nationalities among survey respondents. Among European researchers a high proportion is from Western Europe (39%). Fewer researchers from Northern (28%) and Eastern (20%) Europe. Smallest number from

[10] Approximately 20% of the survey responses indicated "other" when asked to state their Research Position. Answers provided included among others: *Director of research institution, student (stage not given), retired worker and entrepreneur*.
[11] Natural sciences: chemistry, earth sciences, environment, food/agriculture/fisheries, life sciences and biotechnology, physics, nanotechnology and material science, space. Please note that although fisheries can be classified under applied sciences, the field of food/agriculture/fisheries has been included under natural sciences in this report as food science is classified as a natural science.
[12] Non-governmental organisations
[13] These figures are based on the 312 respondents that have stated their nationality.
[14] Eastern Europe: Czech Republic, Bulgaria, Hungary, Poland, Romania, Slovakia. Northern Europe: Denmark, Estonia, Finland, Ireland, Latvia, Lithuania, Sweden, UK. Southern Europe: Greece, Cyprus, Italy, Malta, Portugal,

	Southern Europe (14%).[14]
Gender	Over-representation of male researchers (71%), with female researchers accounting for 29%.
Age	Similar representation of age groups, with fairly balanced number of 25-35 year olds (23%), 36-45 year olds (30%), 46-55 year olds (25%) and 56+ year olds (22%).
Researchers based in India:	
Nationality	German (25%) and French (20%) were the two most represented nationalities among India-based European respondents, followed by Spanish (15%) and Danish (10%).
Research positions	Overall, 44% of the India-based survey respondents work at a senior research level. 11 % of researchers work at post-doctoral level, with 13% accounting for pre-doctoral researchers. 32% have stated "other" when asked after their position. With regard to the European India-based researchers only, 40% work at senior level, with 10% and 15% working at pre- and post-doctoral levels respectively.
Research field	The majority of India-based researchers (59%) work in natural science, with only 10% working in social science and humanities. From the European India-based researchers, 20% of respondents work in social science and humanities.
City in India	India-based researchers were based in 31 different cities. 21% based in Delhi, 20% in Bangalore, 15% in Kolkata. Out of the European India-based researchers, 30% were based in Delhi and 15% in Chennai. Overall, they were based in 10 different cities.
Length of stay in India	Out of the researchers based in India, a large proportion have been living in the country for 15 or more years (59%), reflecting the high proportion of Indian nationals among the India-based survey respondents. A further 16% have been living in India for 2 – 5 years. With regard to European India-based researchers only, 48% have been based in India for less than two years. 19% have been based there for 15 or more years.
Plan to stay in India	Of the European respondents 19% plan to stay for a duration of 15 or more years. 67% of European researchers indicated a plan to remain in India for five years or less.
Motivation to come to India	European researchers moved to India because of an opportunity to study or work with a particular research team (29%). The second most cited reason was participation in a collaborative research project (25%).
Researchers *NOT* based in India:	
Nationality	The most represented nationalities among Europe-based respondents were French (19%), German (13%), Swedish (12%) and Bulgarian (11%).

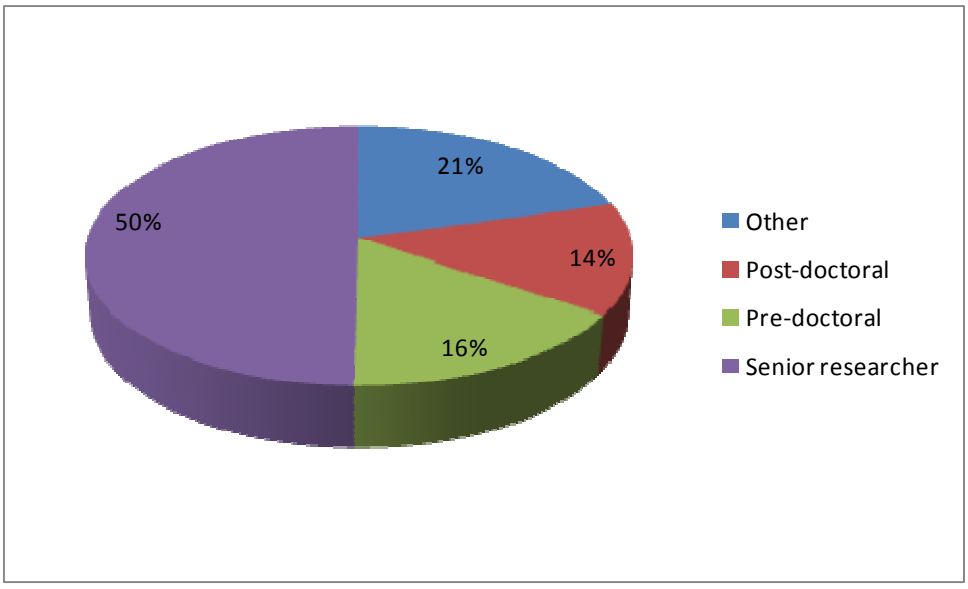
Slovenia, Spain. Western Europe: Austria, Belgium, France, Germany, Luxembourg, Netherlands. Based on UN macro-geographical regions http://millenniumindicators.un.org/unsd/methods/m49/m49regin.htm#europe

Research position	The survey attracted more Europe-based researchers in senior positions (54%). Lesser respondents were at pre-doctoral (16%) or post-doctoral (14%) level.
Research field	49% of Europe-based respondents do research in natural sciences and 33% are active in social science and humanities.
Involvement in research collaboration activity with India	A high proportion of Europe-based researchers (55%) has been involved and still is involved on one or several collaboration activities with India.
Start of involvement	24% of the respondents started their involvement 2-5 years ago, and 20% started their involvement more than 10 years ago.
No of visits to India in last three years	32% of the respondents based in Europe have visited India once or not at all in the last three years for professional reasons. A smaller amount of 17% visited India more than 4 times in the last three years for professional reasons.
Average length of visits to India in last three years	The visits to India of a relatively large proportion (44%) of researchers did not exceed the duration of 2 weeks on average. Only 8% of the respondents stayed in the country for more than 6 months on average.

4.1.2 Researcher Position

Senior researchers made up the largest group of respondents to the survey accounting for 50%. Pre- and post-doctoral researchers were less represented (16% and 14% respectively), as were researchers who described themselves as belonging to the "Other" category (21%). This category largely consisted of researchers affiliated with universities, such as professors or assistant/associate professors as well as researchers and students of unknown academic level. A small proportion of respondents in the "Other" category were researchers in the private sector working for institutes and companies in the technology and R&D sector.

Figure 1 Researcher Position



n = 466 Q: Which of the following best describes your field of research?

Of the respondents who provided information on their gender and current position, male survey respondents were far more likely to be in a senior research position (80%), compared to 20% of female respondents. While female researchers are highly under-represented in senior research positions, this "gender gap" is less evident for post-doctoral research positions with 58% male and 42% female respondents in these positions. The "gap" has completely closed at pre-doctoral level, where there is an equal 50% split between male and female respondents.

Examining the research positions of European respondents based in India with those based in Europe shows that there is a similar proportion working at pre-doctoral (13%) and post-doctoral (11%) level. However, there were a greater proportion of respondents working at senior level based in Europe (54% versus 40% based in India). In addition, a high percentage (35%) of European India-based researchers stated "other" when asked about their current position, whilst only 16% of Europe-based researchers chose this category. This could possibly indicate a less clear or simply different categorisation of research positions in India, with some researchers who don't see themselves as senior researchers despite not falling in the pre- or post-doctoral category.

4.1.3 Field of Research

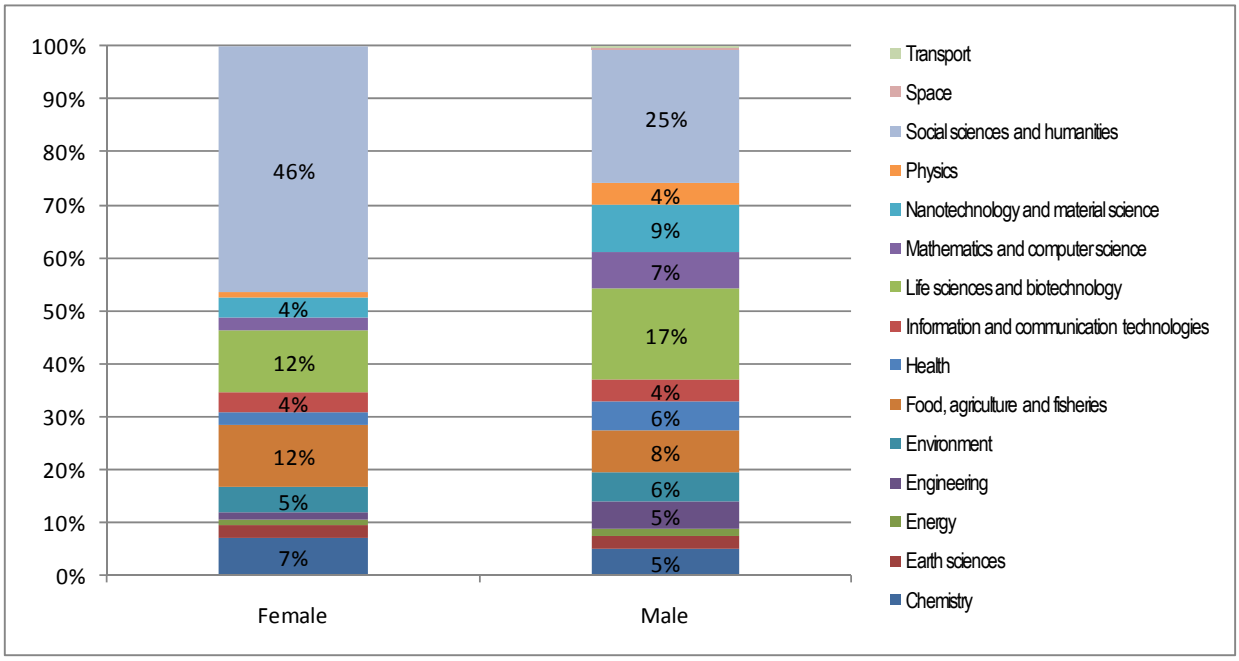
The natural sciences[15] are on the whole more widely represented among the 434 survey respondents who indicated their field of research than the social sciences and humanities. Fifty one per cent of respondents can be classified as belonging to research fields in the natural sciences, compared to 28% in the social sciences and humanities. Other fields of research represented include engineering (6%) and health (5%).[16]

Broken down in more detailed fields of research, female respondents were substantially much more likely to be active in social sciences and humanities, and slightly more active in food/agriculture/fisheries as well as chemistry than male respondents. Male respondents were more represented in mathematics and computer science, life sciences and biotechnology as well as engineering.

Figure 2 Fields of research broken down by gender

[15] Natural sciences: chemistry, earth sciences, environment, food/agriculture/fisheries, life sciences and biotechnology, physics, nanotechnology and material science, space. Please note that although fisheries can be classified under applied sciences, the field of food/agriculture/fisheries has been included under natural sciences in this report as food science is classified as a natural science.

[16] According to standard science classifications, engineering belongs to the field of applied sciences and mathematics to the field of formal sciences.



n = 300

Of the senior researchers, most were active in the life science and biotechnology field (20%), followed by the social sciences and humanities field (17%). The largest proportion of pre-doctoral (52%) and post-doctoral (36%) researchers were also active in social science and humanities, followed by pre- and post doctoral researchers in the life sciences and biotechnology field with 15% and 18% respectively. Thus, researchers from all different research levels were mainly working in social sciences and humanities and life sciences and biotechnology.

Senior researchers responding to the survey were also very likely to work in areas such as food, agriculture and fisheries (9%). Post-doctoral researchers were strongly represented in the field of information and communication technologies (10%), while pre-doctoral researchers were active in the area of environmental research (9%).

With the exception of social sciences and humanities as well as environment and health, in most cases the number of senior and post-doctoral researchers in a given field outnumbered the number of pre-doctoral researchers. This could be an indication that pre-doctoral researchers outside social sciences and humanities need more information and support to establish their research careers.

Broken down by India-based and Europe-based respondents, the survey results show that most India-based researchers are active in the natural sciences (mainly in life sciences and biotechnology with 22%) while the vast majority of Europe-based researchers (33%) are working in the social science and humanities area. Those Europe-based researchers active in natural sciences predominantly worked in food, agriculture and fisheries (8%) as well as in life sciences and biotechnology (18%). Earth science, space, transport and robotics are among the research fields that are least represented across all respondents.

4.1.4 Place of work

The majority of respondents (88%) were affiliated with a university or research institution in the public sector. Only 6% of respondents were working in the private sector and only 3% were working in a third / non-governmental sector organisation.

Male respondents were slightly less likely than female respondents to work at a university or higher education institution, with 65% and 70% respectively. A similar number of female and male respondents work with a private sector research institution, while there were only male respondents from private sector companies

Universities and public sector research institutions were the main employers for respondents working at different research levels. A relatively high proportion of pre-doctoral researchers (19%) were working at public sector research institutions, as opposed to only 11% of post-doctoral researchers who had a stronger presence amongst university-employed researchers. This could indicate that once researchers have completed their doctoral thesis they are more likely to choose an academic career path and seek employment in the higher education sector. This would also be supported by the low number (1.6%) of post-doctoral researchers in private research institutions, where pre-doctoral and senior researchers have a slightly stronger presence. Pre-doctoral researchers are not represented at all in private sector companies, indicating a high level of knowledge and education expected from researchers in private sector companies, where both post-doctoral and senior researchers are equally represented.

Pre-and post-doctoral respondents were three times more likely to work in third / non-governmental sector organisations than senior researchers, suggesting that this sector is a less viable choice for researchers at senior level. It may be the case that there are significantly fewer positions available in this sector or that the terms and conditions , compared with are other sectors, are not as favourable, particularly for senior researchers.

4.1.5 Nationality

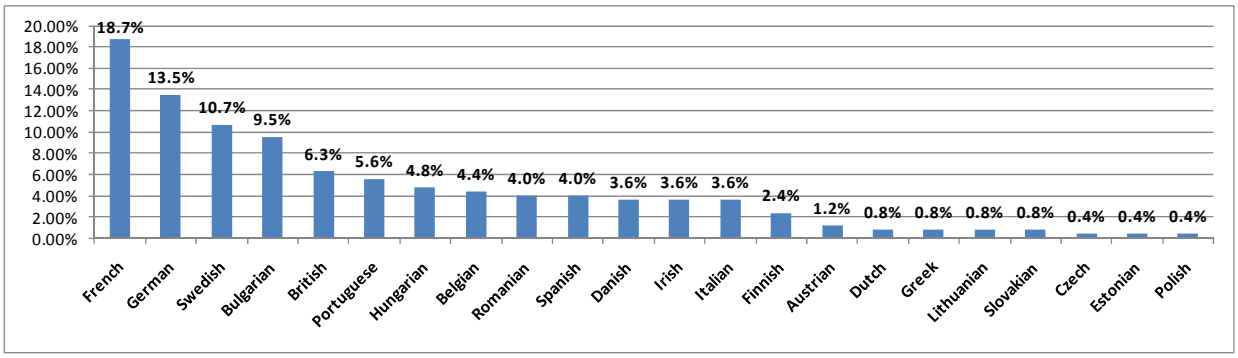
The survey reached 466 researchers**,** of which 300 (67%) were based in Europe, 141 (31%) based in India and 25 (2%) elsewhere. Overall, 252 respondents were from an EU Member State, with respondents covering a total of 22 different EU countries. A further 10 respondents were from other European countries, namely Norway and Switzerland. Forty three respondents were of Indian nationality and seven respondents were of other nationalities (American, Pakistani, and Israeli). One hundred and fifty four respondents have not stated their nationality.

It should be noted that of the 141 India-based researchers, only 20 respondents indicated to be an EU citizen, with 31 respondents stating to be of Indian nationality. One India-based respondent was Israeli and 89 respondents have not stated their nationality.

German (25%) and French (20%) were the two most represented nationalities among India-based European respondents, followed by Spanish (15%) and Danish (10%). The majority of the EU-based researchers who completed the online survey were of French or German nationality, as shown in the chart below[17]:

[17] There were no survey respondents of Cypriot, Latvian, Luxembourg, Maltese or Slovenian nationality.

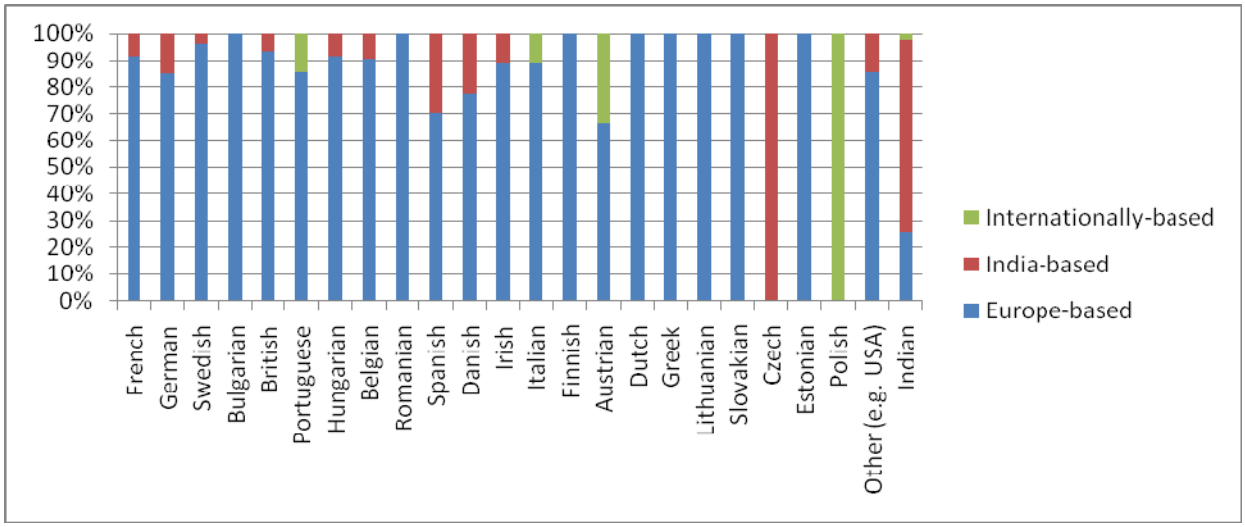
Figure 3 Nationality of EU-based survey respondents



n = 252

Overall, the location of respondents across the different nationalities as presented in the chart below shows a high diversity of nationalities amongst researchers based in Europe. Czech, Swiss, Spanish and Danish researchers are the highest represented nationalities in India.[18]

Figure 4 Location of researchers across nationalities



n = 47; n = 34; n = 27; n = 24; n = 26; n = 14; n = 12; n = 11; n = 10; n = 10; n = 9; n = 9; n = 9; n = 6; n = 3; n = 2; n = 2; n = 2; n = 2; n = 1; n = 1; n = 1; n = 17; n = 43

4.1.6 Gender of respondents

Male researchers were more represented among survey respondents than female researchers. Of those who indicated their gender, 71% of respondents were men and 29% were women. No explanation for this difference can be found in the way the survey was promoted. It is rather a finding of this survey that women are under-represented among European researchers with links to India.

[18] There were no survey respondents of Cypriot, Latvian, Luxembourg, Maltese or Slovenian nationality.

4.1.7 Age

Three hundred and fifteen respondents indicated their age. Overall there was a similar representation of age groups among these respondents: 25-35 year olds (23%), 36-45 year olds (30%), 46-55 year olds (25%) and 56+ year olds (22%).

4.1.8 Location

Respondents were asked to indicate where they are based in professional terms, choosing from a list of options. The majority of survey respondents (67%) were based in Europe, with just under one third (31%) of respondents based in India. 2% were based internationally (namely in the USA, Pakistan and Israel).

The survey attracted responses from European researchers based in 10 Indian cities. A large percentage of European India-based survey respondents were located in Delhi (30%) and Chennai (15%), which suggests that the Indian capital is a popular destination for European researchers in India.

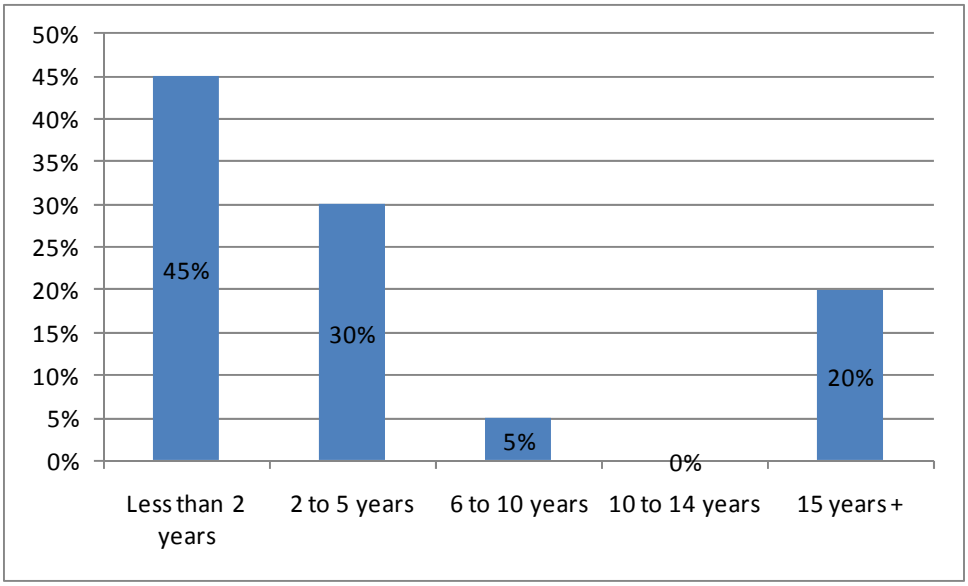
4.1.9 European researchers based in India: Length of stay in India

A high proportion of European researchers based in India indicated that they came to India within the last five years, suggesting that the country has become of growing importance for European researchers. A quote from one of the survey respondents supports this view:

"When the EU Lisbon strategy was funded, they were looking only at the triad (Japan, US) for benchmarking. Now it is a must to look at India, China and other emerging economies."

This was also confirmed by the telephone interviews, where a number of researchers, especially from Scandinavia, suggested that the overall interest in India and in research collaboration with India has increased over the last five years.

Figure 5 Length of time spent in India by European India-based researchers



n = 20 Q: For how long have you been based in India?

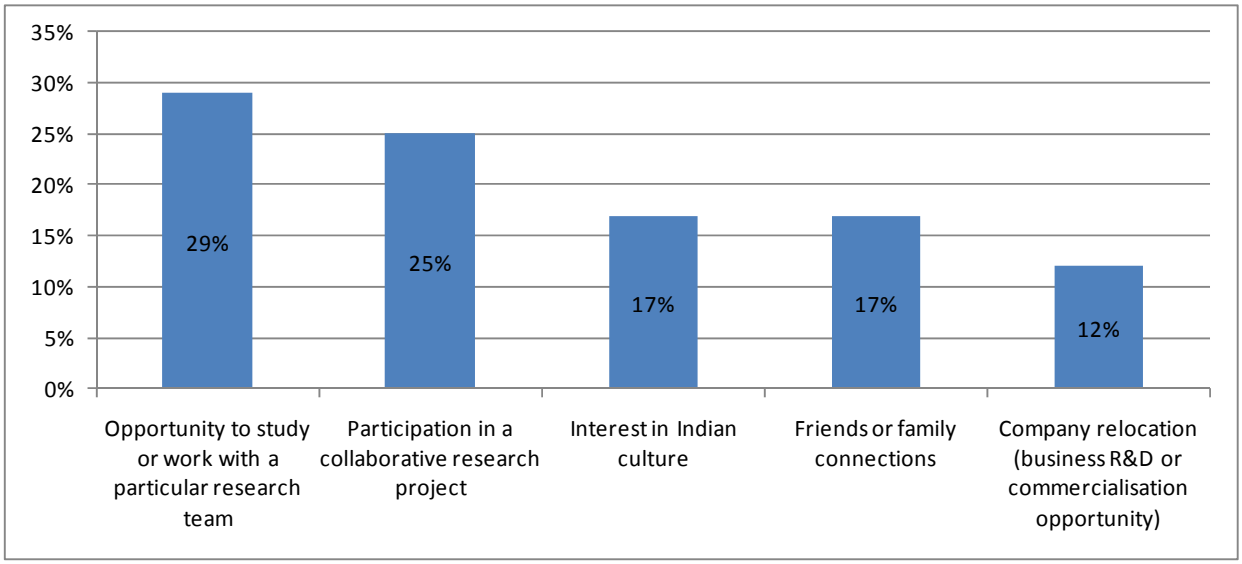
4.1.10 European researchers based in India: Plans to stay in India

Of the European respondents 19% plan to stay for a duration of 15 or more years. 67% of European researchers indicated a plan to remain in India for five years or less.

4.1.11 European researchers based in India: Reasons for moving to India

As shown in the chart below, the majority of European researchers moved to India because of an opportunity to study or work with a particular research team (29%). The second most cited reason was participation in a collaborative research project (25%). Company relocation was least cited as a reason[19]. Strengthening Europe-India research collaboration could increase the number of Europeans moving to India for this reason.

Figure 6 European researchers based in India: Reasons for moving to India



n = 24 (Respondents were able to choose up to two answers) Q: Which one or two of the following best describes why you came to India?

4.1.12 Europe-based researchers: Involvement in collaboration activities with India

Most Europe-based survey respondents (55%) have been involved and / or were still involved in research collaboration activities with India, the majority of them being senior researchers. Another 17% of researchers stated that they are not nor have been involved in any collaboration activity with India but would like to collaborate in the future, with a majority of pre- and post-doctoral researchers in this group of respondents. This would indicate that there is interest particularly among respondents at the early stages of their careers. From responses to other questions this group is also particularly interested in the types of services that

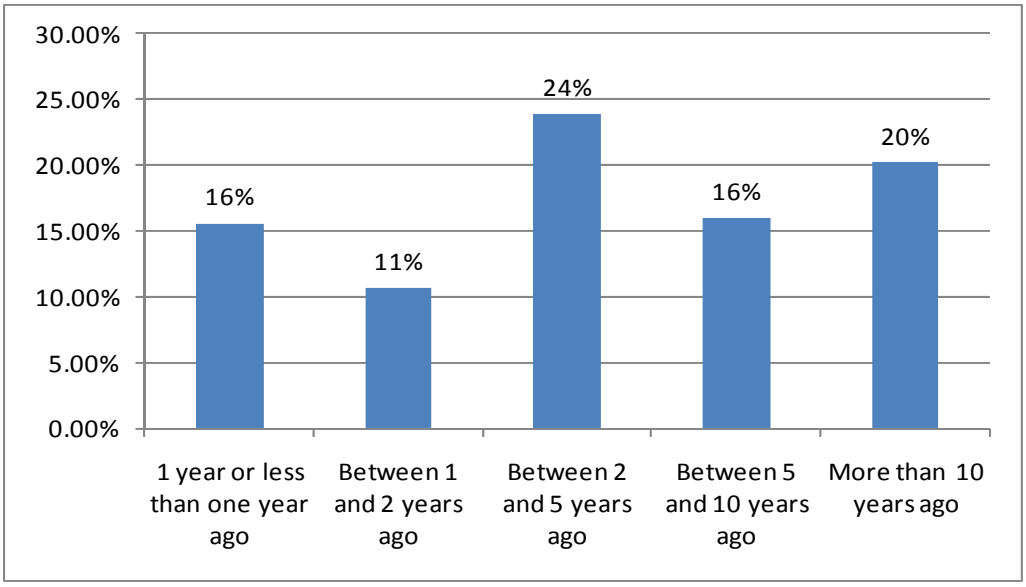
[19] It should be noted that only 6% of the overall survey respondents came from the private sector (please refer to table 1, section 1.4).

EURAXESS Links India might offer. Overall, male researchers were slightly more likely to have been or still be involved in research collaboration activities with India (57%) than their female counterparts (49%).

4.1.13 Europe-based researchers: Start of involvement in research activities with India

As shown in the chart below, 27% of Europe-based respondents began their research activities with India over the last two years, and a further 24% have done so within the last two to five years. These findings confirm the assumption that EU-India research collaboration is generally a fairly recent development that has intensified over the last five years.

Figure 12 Start of involvement in research activities with India



n = 282 Q: If you have been or are involved in research activities with India, when did this start?

4.1.14 Europe-based researchers: Visits to India in the last three years for professional reasons

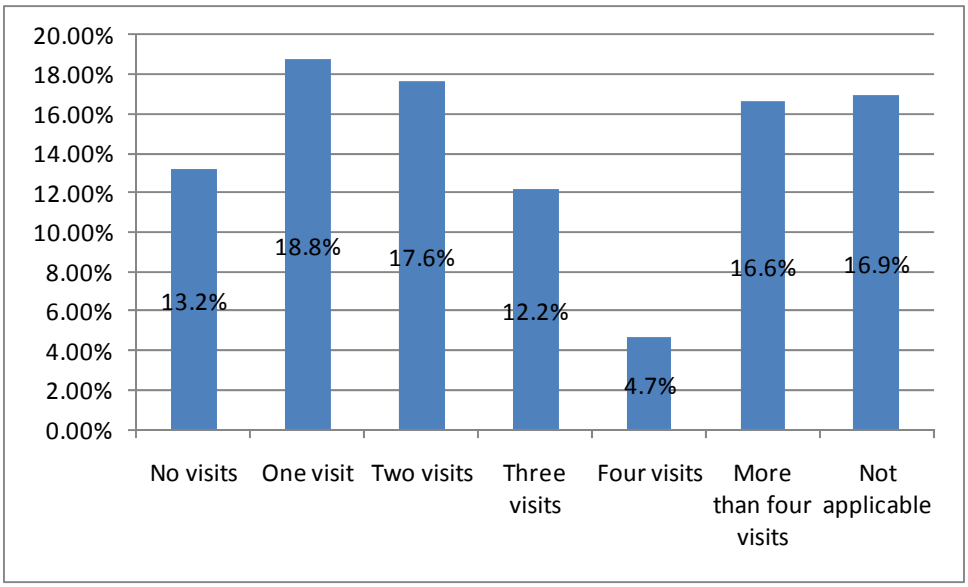
Of the 319 respondents who provided information on their number of visits to India, a third (32%) of Europe-based respondents who have collaborated with India indicated that they have only visited India once in the last three years or not at all. By contrast, the third largest group of survey respondents (17%) went to India more than four times within the last three years.

Among researchers at different research levels, only 13% of post-doctoral researchers have visited India four times or more, compared to 19% of pre-doctoral researchers and 24% of senior researchers. Post-doctoral researchers were also most likely not to have visited India at all in the last three years.

Interestingly, the proportion of female and male researchers who have visited India four times or more in the last three years was similar, although the female proportion of researchers who

have only visited India once or not at all in the last three years was higher than the proportion of male researchers.

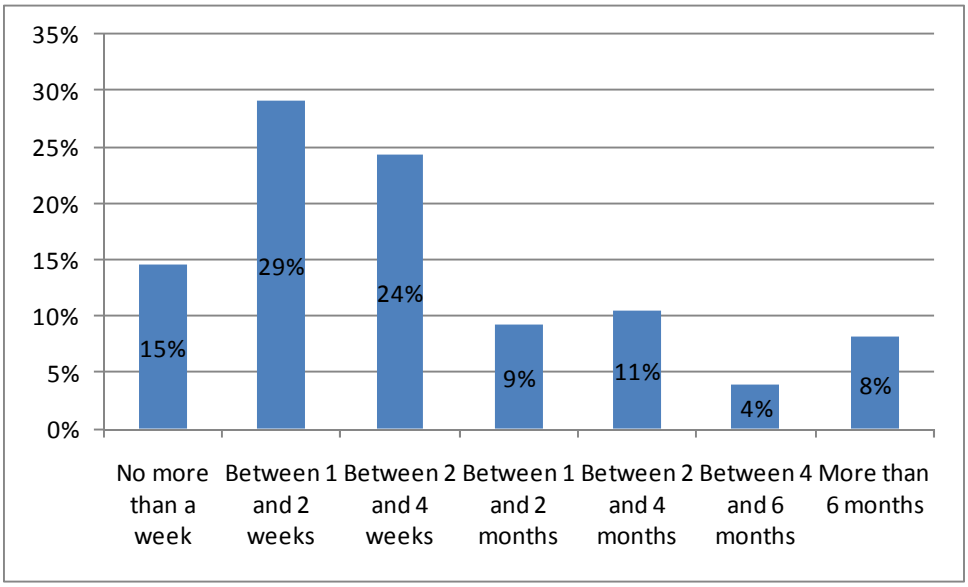
Figure 7 Number of visits to India over the past three years



n = 319 Q: If you have been or are involved in research activities with India, how many times have you visited India in the last three years for professional reasons?

As shown in the chart below, 32% of Europe-based survey respondents have indicated an average duration of more than one month in India, and only 15% stay for a week or less. This could imply that they are involved in some form of collaboration and visit India for more than just attending an event. Evidence from the survey and the telephone interview programme suggests that there are reasons behind a faction of researchers remaining in Europe but travelling to India on this kind of basis, for example, the challenge of permanently living and working in a culture as diverse as India's. On the other hand, the small proportion of researchers staying in India for no longer than a week at a time could reflect a need for more information about relevant events in India, which would warrant short visits of one week or less.

Figure 8 Length of visits to India



n = 247 Q: On average, how long do you usually stay in India on any one visit?

4.2 Conclusions

While the results of the survey are difficult to benchmark due to the fact that there has been little research conducted on the profile of European researchers linked to India, they still reveal certain clear trends among the respondents to the survey providing a reliable insight into the target group as a whole.

- Currently there are a relatively low number of European researchers based in India. However this is expected to change in the coming years. The fact that cooperation between India and the EU is becoming stronger supports this prediction.

- Research collaboration between India and Europe has become increasingly important particularly over the last five years. The evidence suggests that over this period of time that there have been a growing number of opportunities for European researchers in India. This conclusion is supported by the following:

    - Of those respondents based in India, 48% have moved to India within the last two years. A further 30% have been living there for between two and five years.

    - The two main reasons cited for moving to India were an opportunity to study or work with a particular research team (29%) and participation in a collaborative research project (25%). Interest in the Indian culture was also cited by 17%.

    - In addition, 51% of India-based respondents started their involvement in research activities with India in the last five years. Similarly, 27% of Europe-based respondents began their research activities with India over the last two years, and a further 24% have done so within the last five years.

4.3 Recommendations

- It is recommended that the development of the EURAXESS Links India network should continue, as there is clearly a great deal of interest from European researchers based in India and in Europe. The large number of survey respondents as well as the high representation of researchers working at different levels makes a strong case for the feasibility of offering information and services targeted at European researchers linked to India.

- It is recommended that in the longer term the profile information uncovered by this survey should be used to provide information and services to specific target groups of researchers, such as researchers working in specific research fields, researchers at different stages in their careers etc. While enabling the establishment of contacts between researchers in radically different disciplines may not be viewed by some as very useful, taking too much of a targeted approach should be considered carefully particularly to avoid the risk of a fragmented network early on. As the number of European researchers in India and those collaborating with India is relatively low at present, particularly in comparison to European researchers in the USA involved in EURAXESS Links USA, it is recommended that a critical mass of researchers is established before extensive efforts to target commence.

- It is recommended that EURAXESS Links India provides information and services to researchers based in India as well as to those based in Europe who frequently travel to India for their work – the "commuters". The profile of respondents demonstrates that there is interest from both these target groups.

Information and Services for European Researchers

4.4 Key Facts and Figures

Researchers responding to the survey were asked to rate the importance of a number of potential benefits of the EURAXESS Links India network on a five point scale ranging from "Very Useful" to "Not at all Useful". The potential benefits were divided into three categories:

1. Overall benefits
2. Information that would be beneficial
3. Services that would be beneficial

For the purposes of the aggregate analysis of the types of information, services and benefits likely to be of most interest to European researchers in India, the responses have been coded and each has been assigned a numerical value representing how useful the respondents perceived it to be. To derive a numerical value representing the degree to which researchers found a particular benefit useful, each possible response, from "Not at all useful" to "Very useful", is assigned a numerical value from 1 to 5 in ascending order. This value is multiplied with the number of responses in each category, and finally divided by the total number of responses to each question. The output of this is a score between 1 and 5 for each potential benefit of the network, with scores approaching 5 representing the benefits most likely to be perceived as particularly useful by the respondents.

Using this method, the following table has been created, showing the least and most useful benefits of the EURAXESS Links network, and identifying the target groups who are most and least likely to find a particular benefit very useful. To derive this information, the percentages of each target group that find any one service very useful were compared to each other, e.g. 69% of the total number of senior researchers found service A useful, compared to 54% of the total number of pre-doctoral researchers. The fields shaded in blue highlight the benefits that were seen as most useful by the survey respondents (score 4.0 or above).

It is important to note that although senior researchers were the least likely to find the suggested benefits to be very useful, this does not mean that they would not consider these types of information and services to be beneficial. The number of senior researchers considering the types of information and services to be very useful was simply lower than the number of researchers from other groups (e.g. pre- and post-doc researchers), but the number of senior researchers considering the suggested types of information and services either useful or very useful was nevertheless substantial.

It should also be noted that the preferences of European researchers in India and Indian researchers in India were to a large extent in line with each other and with the preference of the overall sample of the 466 survey respondents reflected in the graphs in the following sections.

Table 3 Overall usefulness of benefits by target group

Overall benefits	Most likely to find very useful	Least likely to find very useful	Score
Increased and improved contacts with other researchers in Europe, India and other countries	Strong interest from all types of researchers, particularly from pre-and post-doctoral researchers	Senior researchers had least interest, although benefit still found very useful by 50% of this group	4.54
Increased and improved contacts with scientific organisations in Europe and India	Strong interest from all types of researchers, particularly post-doctoral researchers (73% stated very useful)	Senior researchers had slightly less interest (43% stated very useful, 47% stated useful)	4.43
Social networks	Pre- and post doctoral researchers indicated a medium to high interest	Senior researchers	3.81
Practical information on living and working in India	Highest interest from pre-doctoral researchers	Senior researchers	3.41

Table 4 Overall usefulness of information by target group

Information	Most likely to find very useful	Least likely to find very useful	Score
Sources of funding from Europe and/or from India	High interest from all researcher groups, particularly pre- and post-doctoral researchers	Senior researchers and researchers from the "other" – category[20]	4.71
Europe-India cooperation opportunities	High interest from all researcher groups, particularly from post-doctoral researchers (79% stated very useful)	Senior researchers (59% stated very useful) and researchers from the "other" – group	4.59
Scientific conferences	High interest from all researcher groups, especially from pre- and post-doctoral and "other" researchers	Senior researchers	4.34
Visiting professorships	High interest from all researcher groups, especially from post-doctoral researchers.	Senior researchers	4.33
Information about Indian and EU research policy	High interest from pre-doctoral, post-doctoral (45% of both groups stated very useful) and "other" researcher groups	Senior researchers (29% stated very useful, 46% stated useful)	4.12
Summer training courses in Europe and/or in India	High interest from all researcher groups, particularly from pre-doctoral researchers	Senior and post-doctoral researchers	4.07
Career opportunities in Europe and/or in India	High interest from pre- and post-doctoral researchers (64% and 68% respectively stated very useful)	Senior researchers (25% stated very useful)	3.97

[20] A rounded 20% of the survey responses have indicated "other" when asked after their position. Answers provided included amongst others: Director of research institution, student (stage not given), retired worker and entrepreneur.

Table 5 Overall usefulness of services by target group

Services Benefit	Most likely to find very useful	Least likely to find very useful	Score
Funding search tool	High interest from all researcher groups, especially from pre-doctoral researchers	Senior researchers and researchers from the "other" – group	4.46
Email alerts for European calls for proposals, fellowships, job opportunities etc.	High interest from all researcher groups, especially from pre- and post-doctoral researchers	Senior researchers	4.39
European researchers in India contact database	High interest from all researcher groups, especially from pre-doctoral researchers (68% stated very useful)	Senior researchers (30% stated very useful, 49% stated useful)	4.25
Frequently asked questions	High interest from pre- and post doctoral researchers.	Senior researchers	4.09
Research article database and archive	High interest from pre- and post doctoral researchers	Senior researchers	4.07
Local contact point for help and advice	High interest from pre-doctoral researchers	Senior researchers and researchers from the "other" – group	3.99
Regional meetings / conferences with other European researchers	High interest from pre- and post doctoral researchers (49% and 53% respectively stated very useful)	Senior researchers (20% stated very useful)	3.96
Annual networking event, e.g. conference, career fair, of European researchers in India	High interest from pre- and post doctoral researchers	Senior researchers	3.92
Network electronic newsletter covering European and Indian S&T news	Moderate interest across all researcher groups.	Senior researchers	3.91
Mechanisms for input to EU research policy making	Post-doctoral researchers	Senior researchers	3.86
European researcher online discussion fora / bulletin boards	Pre- and post-doctoral researchers	Senior researchers	3.55

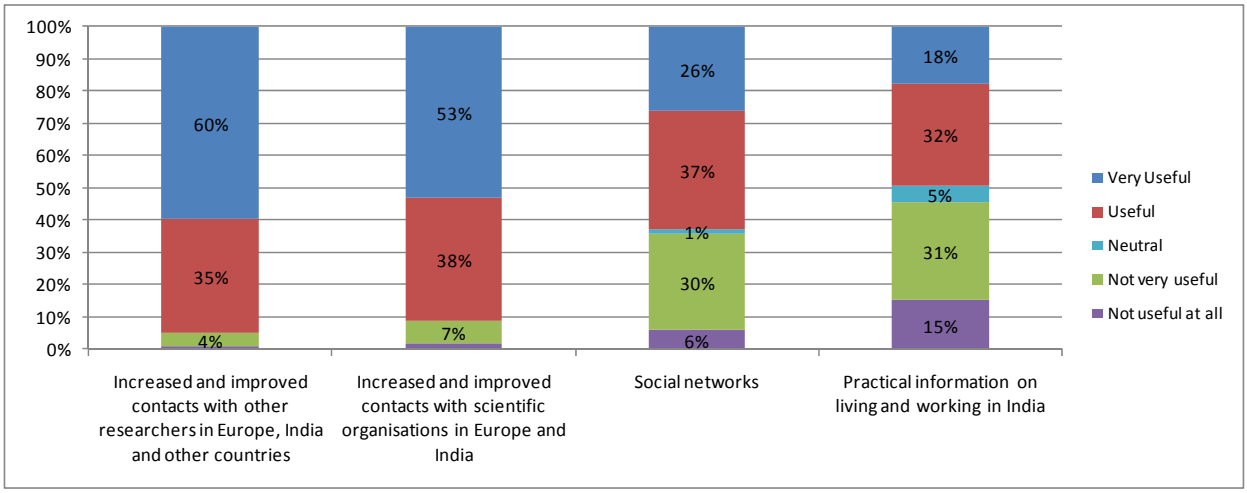
4.4.1 Overall benefits

4.4.1.1 Aggregate findings

Overall, researchers were most interested in improving their contacts with other researchers in Europe, India and other countries, with 95% of respondents stating that this benefit would be "very useful" or "useful" to them. They were also very eager to improve their contacts with scientific organisations in Europe and India, with 91% stating that this would either be "very useful" or "useful" to them.

Services designed to improve the social network of researchers were also seen as useful, although a 30% of respondents took a neutral stance on such a service. Practical information about living and working in India was seen as useful by half the respondents. However the other half of respondents were of the opinion that this would not be particularly useful.

Figure 9 Perceived usefulness of the overall benefits of the network



n1 = 317; n2 = 312; n3 = 310; n4 = 305 Q: What would you expect to gain from networking with other European researchers based in India or are involved in research activities with India? How useful would the following be to you?

4.4.1.2 Increased and improved contacts with other researchers in Europe, India and other countries

The types of respondents most likely to be interested in improved contacts with other researchers were post-doctoral researchers (76% stated that this benefit would be very useful). Similarly, 73% of pre-doctoral researchers stated a strong interest in improved contacts with other researchers, outnumbering the amount of senior researchers considering this to be a very useful benefit (50%). This reflects the stronger likelihood of senior researchers interested in collaborative activities with India already having established a broader network, whilst researchers in more junior positions have a need for support in this area. However, all types of researchers were likely to rate this overall benefit of the EURAXESS Links India programme very highly.

4.4.1.3 Increased and improved contacts with scientific organisations in Europe and India

Increased and improved contacts with European researchers were rated highly by all types of researchers, especially by post-doctoral researchers (76% would consider this to be a very useful benefit), but slightly less so by senior researchers (considered to be very useful by 50%). This suggests that there is a desire among European researchers in India and Europe to build strong networks in Europe for the purpose of furthering their future research careers.

4.4.1.4 Social networks

Pre-doctoral and post-doctoral researchers are most likely to find social networks a useful benefit of a EURAXESS Links India network. Among the respondents, senior researchers were least likely to be interested in social networking, presumably because they are more likely to have their own established networks.

Broken down by gender, female researchers are much more likely to be interested in social networking than male researchers, with 73% of women (as opposed to 58% of men) indicating that they would consider this to be a “useful” or “very useful” benefit of the network. A possible reason for this discrepancy could be that male researchers have already developed more efficient social networks whilst female researchers would benefit from support in this area, specifically tailored for them as a target group.

4.4.1.5 Practical information on living and working in India

Practical information on working in India came out as the potential benefit that respondents were least interested in. This was particularly the case for senior and post-doctoral researchers. Pre-doctoral researchers were most likely to be interested in practical information about living and working in India, supporting the previous suggestion that researchers in the earlier stages of their careers who tend to be younger generally require more support.

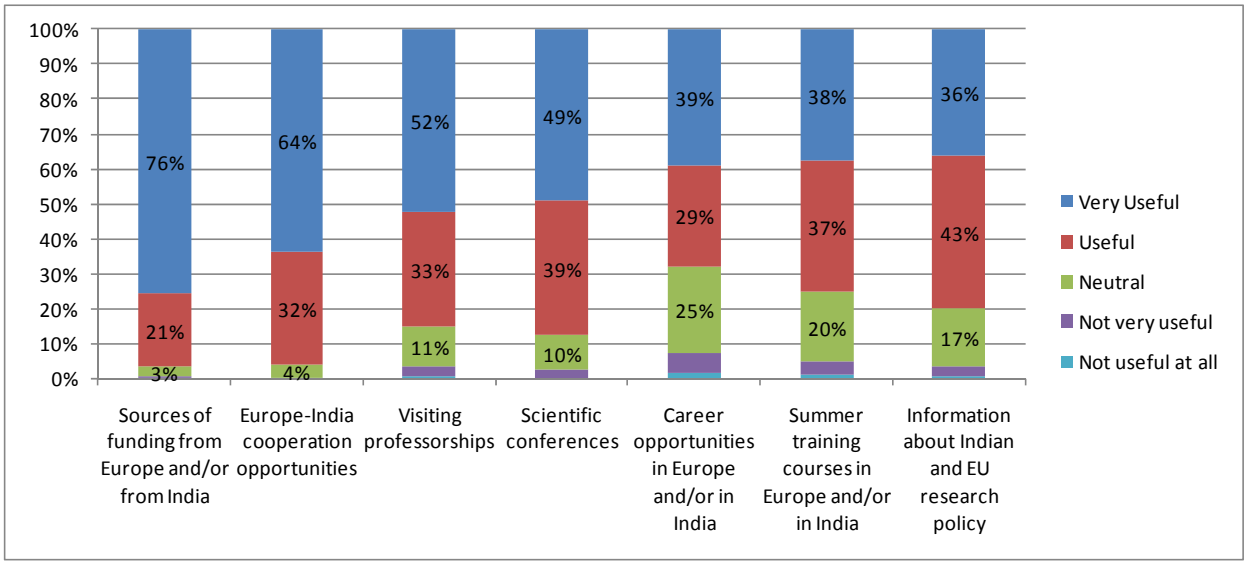
4.4.2 Types of Information

4.4.2.1 Aggregate findings

Researchers generally showed a positive response to all types of information that the EURAXESS Links India network could potentially provide. In terms of the information deemed to be the most useful, respondents were most keen on information on sources of funding from Europe and / or India. Information that would assist researchers to identify opportunities for greater cooperation between Europe and India was also deemed to be particularly useful.

Information about career opportunities was least likely to be rated useful or very useful. One possible explanation could be that the large number of European respondents are not based fulltime in India, and are already on a career path in Europe. Information on summer training courses were also among the types of information least likely to be seen as useful by respondents; again this is a type of information that is only likely to be seen as useful by a segment of the European researchers, especially younger researchers.

Figure 10 Perceived usefulness of different types of information offered by network



n1 = 308; n2 = 315; n3 = 310; n4 = 314; n5 = 304; n6 = 305; n7 = 309 Q: Which types of information should the network provide? How useful would the following be to you?

4.4.2.2 Sources of funding

A majority of all types of researchers were likely to find information about sources of funding for their research very useful or useful. Senior researchers were less likely than other types of researchers to find information about sources of funding very useful, perhaps because they are already engaged in positions where they receive ongoing funding from Indian or European sources. Pre-doctoral researchers are likely to be looking for sources of funding for their PhD or for post-doctoral programmes, and a high interest from this group was therefore to be expected.

4.4.2.3 Europe-India cooperation opportunities

The interest in Europe-India cooperation opportunities is high among all types of researchers surveyed. Senior researchers were slightly less likely than other groups to find information about such opportunities very useful. This may be because they have already been able to establish collaborative partnerships with researchers and research institutions in Europe and India, while researchers at earlier stages of their careers have had less opportunity to do so.

4.4.2.4 Visiting professorships

Respondents were generally very interested in information about visiting professorships. Post-doctoral researchers were the most likely to be very interested in this type of information, with 59% stating that they would find information on visiting professorships very useful. Interestingly, senior researchers were less likely (49%) to find this type of information useful than pre-doctoral researchers (55%), although visiting professorship vacancies would probably be of more interest for someone of at least post-doctoral level. A possible explanation could be that pre-doctoral researchers might be more likely to be open to a career in India whilst senior researchers might already have stable careers in Europe. This also becomes plausible in the light of the fact that generally the interest in research collaboration with India has increased over the last five years especially.

4.4.2.5 Scientific conferences

Information about scientific conferences was deemed useful or very useful by a large majority (88%) of respondents. Pre- and post-doctoral researchers were especially likely to be interested in this type of information, with 55% and 56% indicating that information of this type would be very useful. In comparison, only 44% of senior researchers felt that this type of information would be very useful. This indicates that the more senior a researchers position, the less likely they will be to need assistance in finding out about scientific conferences, perhaps due to their expertise and existing contacts and networks within their field.

Researchers within the social sciences and humanities were on the whole very likely to respond that they would find information about scientific conferences very useful, as were researchers in the fields of health, and life sciences and biotechnology.

4.4.2.6 Career opportunities

Post-doctoral and pre-doctoral researchers were most likely to find information about career opportunities useful or very useful. Senior researchers were significantly less interested in this type of information, with 35% stating that they were neutral as to whether this would be useful to be informed of career opportunities and 10% indicating that this type of information would not be very useful or not useful at all. These findings are not surprising, as pre-doctoral and post-doctoral researchers are in the beginning or in the middle of their career path and therefore have to be more aware of opportunities than researchers in senior positions who are more likely to be settled and established.

Interest in information about career opportunities was significantly higher among female researchers. 49% of female researchers would find this type of information very useful, compared to 35% of males. This could indicate stronger career networks among male researchers and a need for female researchers to be supported in this aspect.

4.4.2.7 Information about Indian and EU research policy

Pre- and post-doctoral researchers are very likely to be interested in EU-India research policy, with 45% of both groups indicating this in the survey. Senior researchers are significantly less likely to find information about EU and Indian research policy very useful, with only 29% agreeing with this statement.

4.4.2.8 Summer training courses in Europe and/or India

Information about summer training courses was most useful to pre-doctoral researchers. A possible reason might be that post-doctoral and senior researchers are likely to be involved in more advanced, specialist training courses, if they are still participating in this type of activity at all. Equally they are more likely to have other types of opportunity open to them.

4.4.2.9 Interest in information provided by EURAXESS Links (Europe based vs. India based)

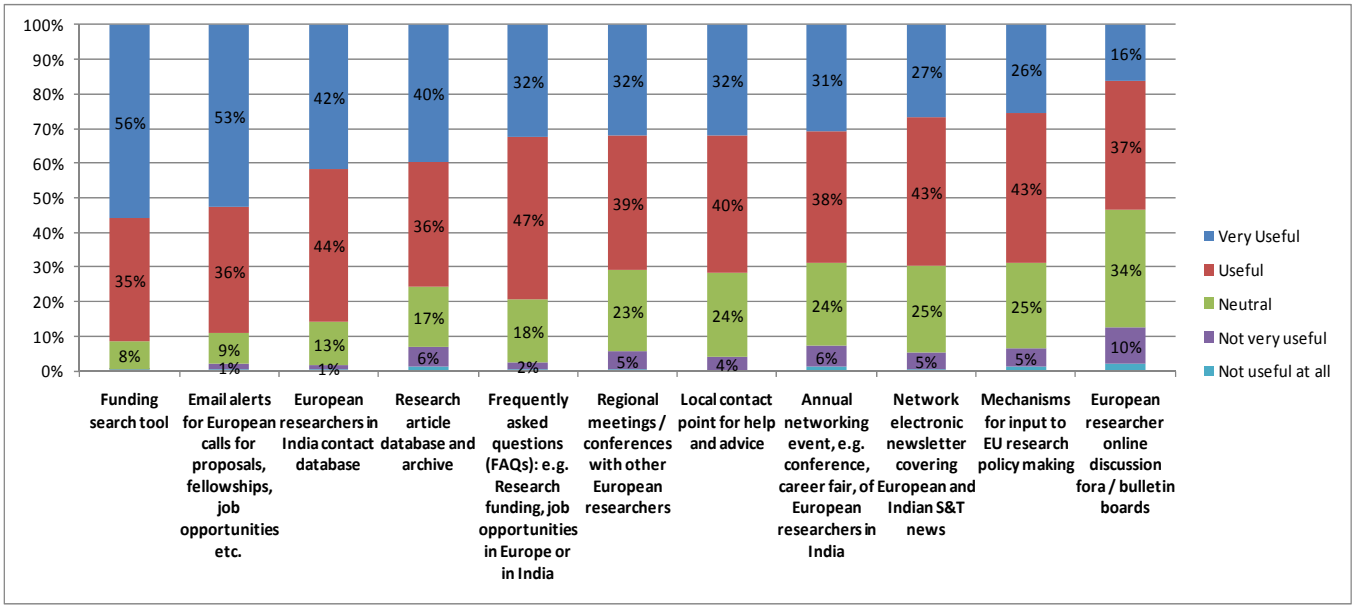
Respondents based in both in India and in Europe responded very positively to the suggestions on the types of information that EURAXESS Links India might provide. Both perceived information on sources of funding from Europe and/or from India as the most useful information. Interestingly, 77% of India-based respondents but only 60% of respondents based in Europe stated that they would find information on Europe-India cooperation very useful. Similarly, India-based respondents were more interested in information on career opportunities in Europe and/or in India (47% of respondents perceived this information as "Very useful" as opposed to 36% of Europe-based respondents).

4.4.3 Types of Services

4.4.3.1 Aggregate findings

Overall, researchers were most interested in innovative, easy-to-use tools and services that will make it easier for them to access funding opportunities for research and information about career opportunities. A funding search tool and email alerts with information about calls for proposals and jobs were the two most popular services identified by the respondents. A contact database of European researchers in India was also seen as a very useful tool by the researchers, as was a Frequently Asked Questions - service. Online discussion forums were considered less useful, as were mechanisms for input into EU research policy making.

Figure 11 Perceived usefulness of the services offered by the network



n1 = 308; n2 = 311; n3 = 315; n4 = 314; n5 = 309; n6 = 313; n7 = 308; n8 = 307; n9 = 308; n10 = 310; n11 = 307 Q: Which types of services should the network provide? How useful would the following be to you?

4.4.3.2 Funding Search Tool

A funding search tool would be very useful for all types of researchers, especially to those in the pre-doctoral phase of their careers. This can perhaps be explained by the fact that they have less experience with funding matters than more senior researchers.

4.4.3.3 Email alerts for calls for proposals, fellowships, jobs etc.

Email alerts would be appreciated by researchers in all types of positions, but are slightly more likely to be considered useful or very useful by pre- and post-doctoral researchers. These are the groups most likely to be looking to make a significant move in their careers, and who are least likely to have an overview of funding opportunities, whilst senior researchers are often in permanent, stable positions with secured funding. They are also more likely to be older and less mobile and independent in terms of relocating to a different environment.

4.4.3.4 Contact database for European researchers in India

With a strong interest in this service across all researcher groups, again pre-doctoral researchers are most likely to find a contact database of researchers particularly useful, which is to be expected as researchers at a relatively early career stage will be less likely to already have established a broad professional network.

Alongside of the small amount of respondents active in the field of energy, researchers in the social sciences and humanities are most likely to find a contact data base very useful or useful (91%). This could be because researchers in this field tend to be younger (29% of researchers in social science and humanities stated that they are between 25 – 35 years old, which makes social science and humanities the field with the highest proportion of researchers of this age group) and in an earlier phase of their careers than researchers in other fields, making them less likely to have a strong and established network of contacts.

4.4.3.5 Research article database and archive

A research article database would be an interesting service predominantly for pre- and post-doctoral researchers. A possible explanation is that the more experienced senior researchers are likely to have an overview of the most important sources in their field, and have a better overview of articles published in specialised publications.

Again apart from the small number of respondents working in the energy field, researchers in the social sciences and humanities were most likely to be interested in a research article database and archive. 60% of researchers in this field are very interested in an article database, compared to a much lower average among other research fields. This may be a reflection that researchers in this field have a broad range of interests, including general interest in research policy, and more heterogeneous sources of information than specialists in other fields.

4.4.3.6 Frequently asked questions (FAQs) tool

The types of researchers who found a FAQ tool very useful were most likely to be pre-doctoral researchers. In comparison to what was the case for the funding search tool and an email alert,

which were highly rated by all types of researchers, a FAQ tool would likely be far less useful to senior researchers, of whom only 24% responded that this would be a very useful tool. 18% of senior researchers stated “neutral” when asked about the usefulness of this tool.

4.4.3.7 Regional events with other researchers

The results for whether researchers would find regional meetings useful were similar to the responses received for annual networking events, in terms of the types of researchers most likely to find them useful with pre-and post-doctoral researchers being the most interested groups.

As with the annual networking events, female researchers were much more likely than male to be interested in regional networking events. 45% of female, compared to 27% of male researchers, would find such events very useful.

4.4.3.8 Local contact point for help and advice

Again, pre-doctoral researchers are significantly more likely to be interested in having a local contact point for help and advice than are other types of researchers. As before, this supports the view that researchers at an early stage of their career in particular would benefit from the EURAXESS Links India network.

4.4.3.9 Annual networking events

Pre- and post-doctoral researchers were the most likely to find an annual networking event very useful or useful. Researchers at more advanced stages of their career were very likely to be neutral on whether this would be useful (30% of senior researchers were neutral). An annual networking event would most likely be successful if it were specifically targeted at younger, pre-doctoral researchers, who are less likely to have established networks.

Female researchers were more likely than male to be interested in annual networking events. 37% of female, compared to 27% of male researchers, would find such events very useful.

4.4.3.10 EURAXESS Links electronic newsletter

There was a moderate level of interest in this service across all researcher groups. Senior researchers were least likely to find a newsletter useful or very useful. On the whole, a large number (25%) of researchers were neutral as to the benefits of an electronic newsletter, especially in comparison to their enthusiasm for tools such as email alerts on funding opportunities and a funding search tool.

4.4.3.11 Mechanism for input into EU research policy making

A moderate level of interest was also shown across all researcher groups for this service, with post-doctoral researchers being more likely to find this service very useful than any other researcher group (38% would find this service very useful). Only 22% of senior researchers stated that this service would be very useful for them.

4.4.3.12 European researcher online discussion fora / bulletin boards

Researchers in the social sciences and humanities, alongside of researchers in Information and communication technologies, and food/agriculture/fisheries, are most likely to be interested in an online forum for discussion with other researchers. While many research fields in for example the natural sciences are highly specialized, making exchange with researchers from other areas of little professional interest, researchers in the social sciences and humanities often study in cross-disciplinary fields, such as the history of a given science or in fields such as anthropology (which can draw on work in fields as diverse as history, literature and natural sciences). This may be a possible explanation for this finding.

Interestingly, online discussion for a were especially mentioned during some of the telephone interviews with researchers as a tool that could potentially aid the networking process of researchers living and working far apart from each other.

4.4.3.13 Views on most useful services (European based vs. India based)

Overall, India-based and Europe-based respondents' perceptions towards potential services to be provided by the EURAXESS Links India network were very positive. India-based respondents were mainly interested in the development of a contact database (96% perceived this as being "Very useful" or "Useful") or a funding search tool (91% cited this as being "Very useful" or "Useful"). Europe-based researchers also perceived a funding search tool as important (91%), but were less interested in the provision of annual networking events. 66% perceived this as being "Very useful" or "Useful" as opposed to 82% of India-based respondents.

4.4.3.14 Further suggestions for provision of information and services

Survey respondents had a number of additional suggestions for how to design viable information and services for European researchers with links to India:

- A large number of respondents pointed out the need for a contact database of European researchers and research institutions in India and Europe. Information on field research was also mentioned. To provide this information in a map-based format and possibly show clusters of researchers working in the same field or having the same nationality were also possible features mentioned by the survey respondents as well as some of the researchers interviewed by telephone. The database could also include information on projects and publications.

"It will be useful to have a database about the European researchers in India"
"Map-based information about clusters of researcher."

Database of research centres, libraries (What they do, how to find, etc.) in India and in Europe that work on Indian subjects."

"Information on field of research, i.e. name of city/organization where the research is being done."

"The contacts database should be a sort of "trombinoscope", an include list of previous / current projects & publications of individual researchers."

- A number of respondents suggested targeting information and services specifically at different communities of researchers, i.e. within a certain scientific field:

"Research area specific sub-groups rather than a single forum for more specialized exchange."

"Try to develop faculty exchange programmes."

- Other respondents suggested that a network should assist in supporting European research activities with India and vice versa. There is clearly a need for support with practical / administrational issues. Support with regard to dealing with Indian cultural particularities such as the Indian cast system was also mentioned.

"Dealing with research permissions - it is very difficult to establish research programmes. USA has an agency that support their researchers obtain necessary permissions and clearances. EU should do the same to help its researchers."

"Help and support in VISA processes."

"Screen Indian partners thoroughly to circumvent any social (i.e. cast system) limitations."

4.4.3.15 Participation in network of international researchers in India

India-based researchers were asked to specify the name of any European-Indian research programmes, schemes, funding mechanisms, fellowships or grants that they are or have been involved in. They were also asked to state whether these are bi-lateral, regional or other types of initiatives.

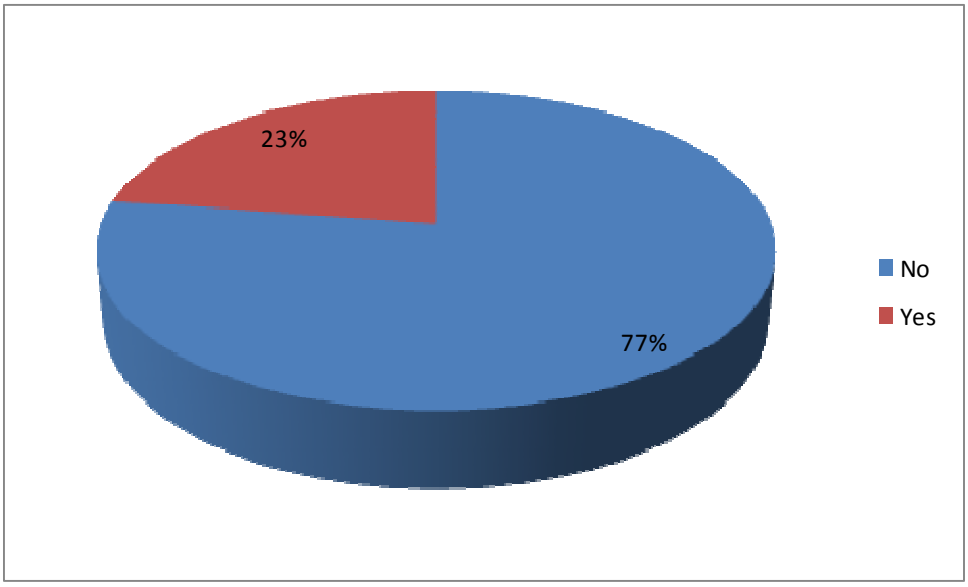
Out of the India-based respondents, the Humboldt network and the European Commission's Sixth and Seventh Framework Programmes (FP6 / FP7) were mentioned several times. Other programmes mentioned included CEFIPRA, IFCPAR and STINT International Fellowship.

Europe-based respondents also mentioned the European Commission's Sixth and Seventh Framework Programmes (FP6 / FP7). Whilst the Humboldt and the Marie Curie networks were only mentioned by a small number of respondents, a larger number stated to have been involved in the CEFIPRA programme. Other programmes mentioned included the European Union India Cross Cultural Innovation Project and ENCARTI - European Network for the Academic Research on India.

4.4.3.16 Participation in national science & technology networks in India

As presented in the chart below, less than a quarter of survey respondents are part of their national S&T networks in India.

Figure 12 Participation in national S&T networks

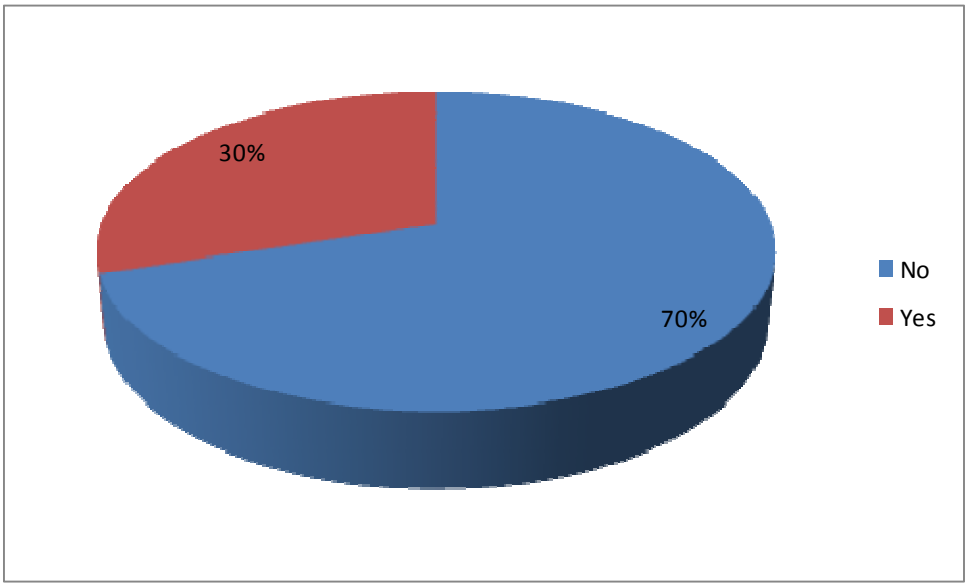


n = 321 Q: Are you part of a national (your own country) science and technology network in India?

4.4.3.17 Contacts with European Embassies and the Delegation of the European Union

As presented in the chart below, less than a third of survey respondents had any contact with their national Embassy or the Delegation of the European Union to India.

Figure 13 Contacts with national Embassies and the Delegation of the European Union to India



n = 314 Q: Have you had any contact with your embassy or the Delegation of the European Union to India?

4.5 Conclusions

- It can be concluded that European researchers in and collaborating with India are interested in many of the types of information and services that a EURAXESS Links India network is proposing to provide. Respondents are particularly keen to develop their network of contacts in India and seek assistance in developing their careers and fund their research.

- The types of information and services likely to interest a large majority of all types of researchers, irrespective of where they are in their research careers include:

    - Sources of funding from Europe and/or from India
    - Europe-India cooperation opportunities
    - Funding search tool
    - Email alerts for European calls for proposals, fellowships, job opportunities etc
    - Increased contacts with Indian researchers and organisations
    - Contact database
    - Visiting professorships
    - Scientific conferences

- The services and types of information most likely to be perceived as very useful by the respondents are primarily internet based, and designed to assist researchers in obtaining funding for their research in India or Europe, primarily by providing information about funding, Europe-India cooperation opportunities but also sourcing calls for proposals.

- Researchers are most likely to be motivated by the opportunity to build their professional networks, rather than increasing their social contacts. Contacts with researchers in radically different disciplines are not likely to be seen as very useful and it was

suggested that the EURAXESS Links India network should provide opportunities to collaborate and network within research fields.

- Pre-doctoral researchers are on the whole most likely to find a wide range of services and information very useful. Post-doctoral perceived the majority of services and information very useful to a slightly lesser extent and senior researchers were the group least likely to consider the types of information and services likely to be offered by the network as very useful.

- While gender did not have a great impact on the types of information and services most likely to be perceived as useful, female researchers are on the whole more enthusiastic about networking activities and improving their contacts with other researchers. This may be explained by two factors: female European researchers are in the minority in India and so may feel more urgency about building up their networks than male researchers, and they are more likely to be active in the social sciences and humanities, where researchers are perhaps less likely to be integrated into a strong and well established professional network.

4.6 Recommendations

- It is recommended that information and services are designed primarily to provide information and assistance on finding research funding, and on increasing opportunities to build links and networks with Indian researchers and scientific organisations.

- As the services and types of information most likely to be perceived as very useful by the respondents are primarily internet based, the network should at least partly focus on a variety of internet-based tools and services, to adapt to the researcher's strong use of the internet.

- It is recommended that initially the EURAXESS Links India network is administered and maintained in a similar way to the networks in the US, Japan and China. Where possible, the network should also provide the functionality for users to generate content.

- Whilst the network should target researchers at all career levels, the particularly strong interest of pre-doctoral researchers should be considered when developing initiatives such as events and newsletters.

- Due to the importance of networking to developing a career in research, it is recommended that specific events, such as work shops and seminars be established and promoted via the EURAXESS Links India. These should focus on ways of furthering a career in research and/or provide information on how to apply for European funding programmes. Events should focus on leveraging the types of information that researchers find truly useful, such as obtaining funding for their research as well as having a social element.

- There is a high level of interest in a contact database for European researchers. It is recommended that the contact database be made as relevant to researchers as possible, by including for example detailed information on each researcher's specialist field and their publications. This will make it easier for researchers to find other researchers with a profile similar to their own for networking purposes.

- It is recommended that the services and information are promoted in a way that makes it clear to the target groups what they can expect to gain from participating in the network. The website could for example be organised to give an overview of different tools that will allow researchers to obtain assistance in key areas such as identifying sources of funding and careers information.

- It is recommended that the network develops facilities that support collaboration and networking within research fields to help researchers to form sustainable working relationships within their field of research, in addition to broader networking tools and initiatives aimed at strengthening research collaboration between the EU and India in general. Facilities could include thematic online discussion fora, an additional feature of the contacts database where researchers can specify their exact field of interest as well as a keyword search tool to search for potential research partners in a specific subject area, and thematic researcher events on specific topics.

5 European research and EU-India research collaboration

5.1 Key Facts and Figures

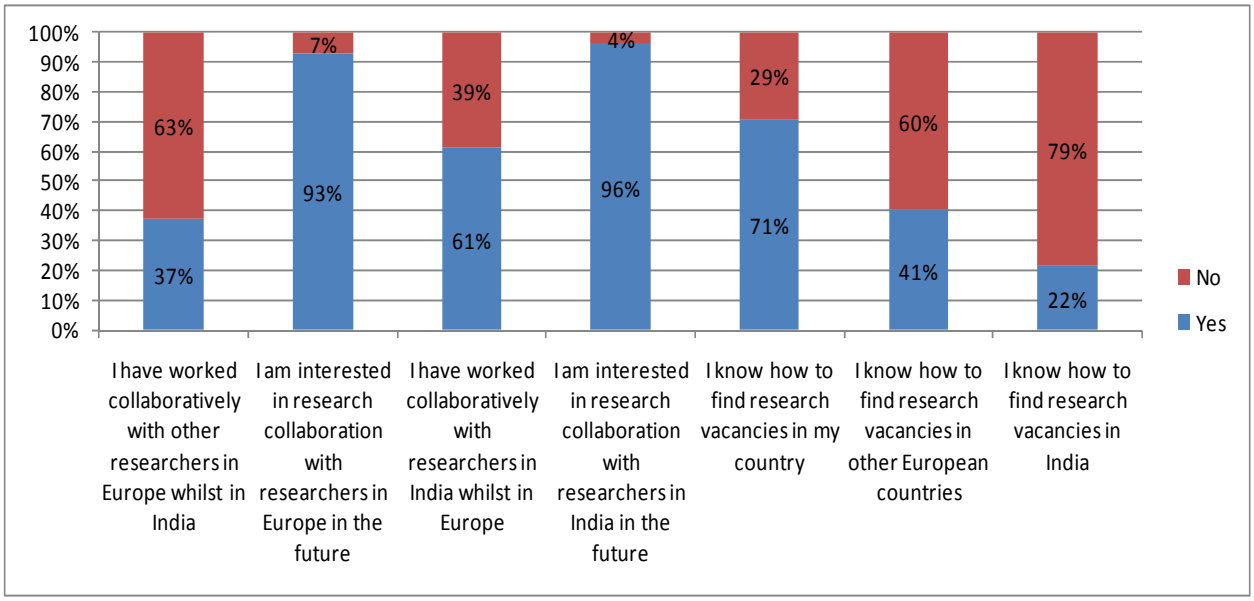
5.1.1 EU-India Research Collaboration Experience and Interest

In terms of past collaboration, the survey results demonstrate that a relatively high proportion of respondents have already experienced EU-India research collaboration in some shape or form. The proportion of Europe-based researchers that have worked collaboratively with India-based is substantially higher (61%) than those that are or were based in India and have collaborated with Europe-based researchers (37%). This could mean that India-based researchers in particular would benefit from networking support through EURAXESS Links India, providing the resources (information) and channels (services) to promote collaboration that might currently not be in place.

Respondents expressed a great deal of interest in future collaboration. An overwhelming 96% and 93% of respondents stated that they are interested in collaborating with researchers in India and Europe respectively.

The number of researchers who stated that they know how to find research vacancies in their own country was high with 71% stating they would know how to go about this. However, with regard to finding a vacancy in other European countries, respondents are not confident at all with only 41% feeling that they would know how to find research vacancies. An even lesser amount of 22% stated that they know how to find research vacancies in India, indicating a strong need for support in this area.

Figure 14 Experience of research opportunities in Europe and India



n1 = 294; n2 = 302; n3 = 294; n4 = 297; n5 = 290; n6 = 289; n7 = 288 Q: What is your experience of Europe-India science and technology collaboration and research opportunities in Europe and in India?

When asked about the main barriers for Europe-India research collaboration, respondents also highlighted the following points:

- Collaboration can be challenging given the fact that the Indian culture, language and way of working is very different to that in Europe. In this sense, having some understanding of the culture and language is seen as an important factor in determining successful EU-India collaboration. Administrational barriers, also with regard to visa and research permissions, were mentioned frequently.

> *"There are cultural differences in everyday life and differences in communicating and agreeing upon choice of methods, as well as language difficulties."*
>
> *The European and Indian working cultures are contrasted; there are delays and difficulties to access data sets, and a lack of communication with partners."*
>
> *Bureaucracy in India makes things tedious. Rules and Regulations are not transparent, are not communicated in advance. Visa procedures are also a problem."*
>
> *India and the EU have different approaches and levels of research. India has a lot of administration and the same applies to the EU, this takes much of the valuable time."*
>
> *"Too much bureaucracy both in India and EU."*

- Leading on from the above point, there was also a feeling among several respondents that finding the right research partner is not an easy process in terms of the time and effort required to identify a suitable partner. Trying to find research partners through the websites of research institutes and developing partnerships remotely are not proving to be useful steps towards effective research collaboration.

> *"It is difficult to find matching cooperation partners from publications or websites of research institutions."*
>
> *"It is extremely difficult to find individuals / organisations who share research interest."*
>
> *"Apart from few personal contacts we do not know each other. It is very difficult to start up collaboration by emails."*
>
> *"It's difficult to break through and get contact with real scientists rather than with the university administration only."*
>
> *"With proper networking and availability of information, there is greater potential for*

cooperation, collaboration and mobility. A big constraint is a lack of timely information."

- Several respondents feel that there is a lack of funding for European-Indian collaborative research, especially in the social science and humanities field. In addition, lack of information about funding was cited numerous times.

"The problem is the paucity of funding programmes for bi- and multilateral collaborative projects. With a number of programmes for establishing contact, more and more flexible funding programmes for advanced collaborative projects are needed."

"There are not sufficient funding opportunities for Europeans to go to India; and support for social science and humanities is missing. Many funding schemes are only for science and technology research projects."

"There is too little information. Most projects are focussed on the natural sciences."

"There is a lack of money and equipment. The opportunities for funding are scattered."

"It is not easy to identify funding sources or conditions."

- Other interesting points mentioned with regard to the main barriers for Europe-India research collaboration included insight into India's relationship with the USA with regard to joint research initiatives. The below quotes show that there is a definite scope for strengthening Europe-India research collaboration.

"Students ask how to pursue their studies abroad, and there is no good data base which would contain a large number of answers. Also the number of scholarships is too limited, while USA offers more opportunities - with less language problems"

"Most Indian students dream about studying in the US for PhD or Post-doc. The same cannot be said about studying in E.U. Thus, it seems difficult to recruit good students or post-docs for collaborative projects."

"Europe-Indian research collaboration has run out of steam and must be "steamed up" again."

The opportunity for catching up with the USA's strong ties to India was also discussed in "*The European Union and India – A Dynamic, Strategic Partnership*", stating that *"the EU offers India the advantage of decreasing its risks in the face of a turbulent US economy. Many Indian companies have entered the EU by setting up operations in Germany, Denmark, Netherlands or Sweden".* [21]

When asked about the main opportunities of Europe-India research collaboration, respondents' answers included the following:

- Advances in research through knowledge sharing and mutual learning has been cited by a number of survey respondents as one of the main opportunities of Europe-India research collaboration, especially in the light of the different research environments that make it possible to apply tools and methods to a different context. This view was supported by both Indian and European respondents. Supporting the development of India as a nation trying to overcome certain economic weaknesses has also been mentioned various times in this context as an added value of increased research collaboration. This was also confirmed in the interviews with a small sample of Indians based in Europe who have been involved in Europe-India research collaboration for many years (section 7.2.1), who underlined the benefits to India from a development point of view.

"Working on issues that seem to be solved in Europe but will need innovative solutions adapted to the Indian conditions: new problems = new ideas."

"Different approaches and even structures promise fruitful exchanges and new developments in many fields of research."

"Excellent science in India could help my research."

"Main opportunities are the exchange of research material and experience, extension to cooperation in other fields, and contribution to poverty alleviation and sustainable development."

[21] *The European Union and India – A Dynamic, Strategic Partnership,* published by Stroudgate (www.stroudgatenet) (2009)

"Bright future for research collaboration in the field of sustainable development."

- From a European perspective, the large amount of qualified researchers and students interested in research careers is an important reason for collaborating with India. Indian respondents have indicated that added value for India can be seen as increased access to European technology and equipment.

"True mutual benefit - for Europe access to tremendously motivated and capable researchers; for India access to state-of-the-art methods and facilities. Plus a personal win-win situation regarding the cultural aspect of collaborations."

"There is tremendous opportunity for both sides. India needs the technology and Europe needs the talent."

"India investment in research is continuously growing and India has a lot of trained people. India could benefit of the European long experience in terms of laboratory/HR management."

This view was also supported by "*The European Union and India – A Dynamic, Strategic Partnership" which states: "Many international R&D alliances have been established in sectors such as automotive components, pharma and biotech, Microsystems, electronics, and the environment. As India Inc seeks to move rapidly up the value chain, it is looking to Europe for technology partnerships."*[22]

5.1.2 EU-India Collaboration Sources of Information

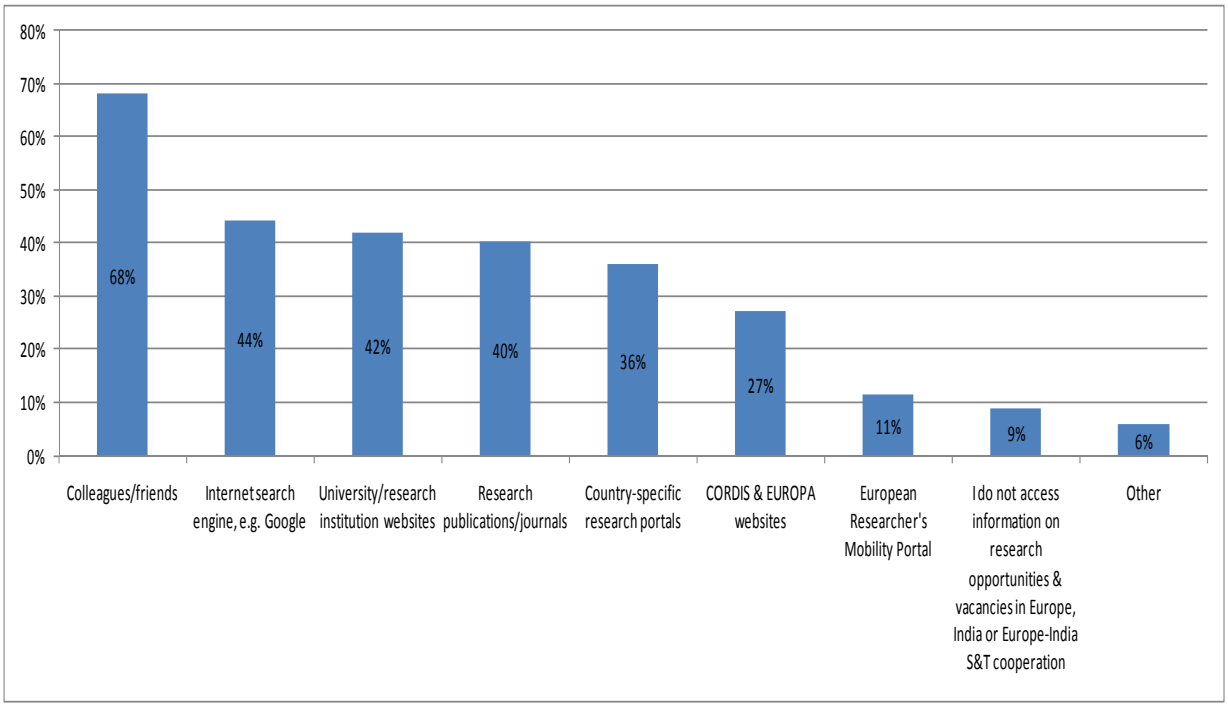
Colleagues and friends were the most common source of information, followed by internet search engines and university/research institution website.

There were also a considerable number of respondents who make use of research publications/journals country specific research portals. This reflects the view of many researchers that *"information about positions is scattered".* A relatively large proportion of respondents (27%) also cited the CORDIS and EUROPA websites of the European

[22] *The European Union and India – A Dynamic, Strategic Partnership,* published by Stroudgate (www.stroudgatenet) (2009)

Commission. The European Researcher's Mobility Portal appears to be used by very few respondents (11%) in comparison to how many use the CORDIS and EUROPA websites.

Figure 15 Sources of information about research opportunities and vacancies



n = 316 Q: How do you access information on research opportunities and vacancies in Europe and in India and / or Europe-India S&T cooperation? Please select three sources of information that you use most.

5.2 Conclusions

- There is a very high level of interest in collaborating with researchers both in India and Europe in the future (96% and 93% of respondents claimed to be interested in this type of research collaboration respectively). This suggests that a EURAXESS Links India Network could potentially fill an important gap in the market.

- The most likely way for European researchers in India to access information about research opportunities is through colleagues and friends and via the internet (either through university/research institution websites, Europa and Cordis websites and internet search engines). These results suggest that initiatives such as a database of contacts, an application hosting researcher opportunities and a resource for providing further information would be highly relevant to the researchers.

- While numbers of European researchers collaborating with India are expected to rise the study has identified some of the difficulties encountered by European researchers in research collaboration with India (potentially, difficulties that the EURAXESS Links India network could help overcome):

- There are major differences in the culture and ways of working between the EU and India. It is widely recognised that these differences can make collaboration more difficult and time consuming.

- There are discrepancies between the European and Indian research environments, such as administrational burdens and a perceived lack of transparency of rules and regulations.

5.3 Recommendations

- Collaboration can be supported through the network in addressing the above difficulties by providing information on the named differences between the European and Indian living and working environments and suggestions on how to prevent and overcome common difficulties.

- The network should focus on a variety of internet-based tools and services, to adapt to the researcher's strong use of the internet. Additional events can be used to intensify networking and strengthening exiting partnerships.

- It is recommended that EURAXESS Links India should provide information on the European Research scene with a particular focus on funding bodies and programmes, as well as some information on developments in EU research policy.

6 TELEPHONE INTERVIEW PROGRAMME

6.1 Background and Approach

Within the timeframe of 20th April 2008 to 10th May 2010, the evaluation team conducted a series of 18 telephone interviews with European researchers either based in India or in Europe. These interviews served the following purpose:

- To further enhance the findings from the online survey;
- To gain a deeper understanding of what researchers would want from a EURAXESS Links India network.

In addition, the evaluation team spoke to a small number (three) of researchers of Indian origin who had been working in Europe for long periods of time and were strongly involved in Europe-India research collaboration.

The interview guide used for the interviews with EU researchers in relation to India can be found in Annex 3 of this report.

The evaluation team, in cooperation with the European Commission's Directorate General for Research and the Delegation of the European Union to India, developed a set of criteria in order to choose interview partners among the survey respondents. The criteria were as follows:

- Balanced nationalities;
- Balanced career stages;
- Balanced fields of research;
- Balanced gender mix;
- Balanced mix of researchers based in India/based in Europe;
- Geographical spreading for those researchers based in India (i.e. considering researchers based all over India, not only in Delhi);
- Mix of sectors (public and private sector)

A basic summary of interviewee profiles is shown in the table below. This illustrates that the criteria above have to some extent been successfully applied in selecting interviewees.

Table 6 Summary of interviewee profiles

Gender	Location	Nationality	Researcher Positions	Location of India based researchers	Fields of research
• 9 male • 9 female	• 12 based in Europe • 6 based in India	• 3 French • 3 Swedish • 2 British • 2 German • 1 Danish • 1 Romanian • 1 Bulgarian • 1 Czech • 1 Greek • 1 Italian • 1 Portuguese • 1 Spanish	• 8 senior researchers • 5 pre-doctoral researchers • 3 post-doctoral researcher • 1 assistant professor • 1 research assistant	• Delhi • Hyderabad • Pondicherry • Kolkata	• 8 Social sciences & humanities • 4 Food, agriculture & fisheries • 2 Information & communication technologies • 1 Life sciences & biotechnology • 1 Engineering • 1 Environment • 1 Energy

6.2 Interview Programme Findings

6.2.1 India Based Interviewees: Background

Out of the six interviewees based in India:

- 3 are working for a non-governmental organisation (NGO) in India;
- 2 are employed at a university in India, and
- 1 is working for a public sector research institute in India.

Motivations for going to India

The researchers interviewed went to India for the following reasons[23]:

- Their research field is directly linked to India;
- Their research finds a particularly interesting application in India;
- India research field;
- Through links to Indian universities that were established by the researchers through previous studies, fellowships and internships;
- There are research opportunities at Indian research institutes and universities organised through national organisations e.g. DAAD;
- Personal reasons such as marriage to an Indian citizen.

Length of time in India

Three of the six India-based interviewees have been in India more or less permanently for more than five years, one has been there for three to four years and the remaining two have been there for six months or less.

[23] Interviewees partly mentioned more than one reason for going to India

The three European researchers based in India for more than five years work in different type of institutions, i.e. at a university, an NGO and a public sector research institute. Two of these researchers intend to stay in the country for long term and have no immediate plans to return to Europe. In both cases, this is due to the fact that they have established their careers with permanent contracts in India. The third researcher is currently looking for employment in his home country (Germany) as his fellowship with a German organisation in India is coming to an end, but is generally open to take up further employment in India depending on arising opportunities relevant to his field of research. The other interviewee who has been living in the country for several (three to four) years and is married to an Indian citizen intends to stay in India for at least another two years but is generally open to relocating and taking up employment outside of India.

The one European researcher who has been living in India for about six months will definitely stay until the end of his 5 year contract and is not sure if he will remain in India afterwards. The researcher who has been in India for less than six months will complete her 6 months exchange programme and then return to her Spain-based university.

Based on the above, five of the European researchers based in India are either planning to stay in the country or are at least open to this option, and only one has definite plans to return to Europe in the near future.

Knowledge of the Indian languages

Three of the six interviewees based in India indicated that they have a basic to good knowledge of Tamil, three stated to have a basic knowledge of Hindi, of which two also considered that they have a basic knowledge of Bengali as well. Only one of the researchers stated to have no knowledge of any Indian language.

The general intention of the interviewees seems to be to gain at least a basic level of knowledge of one or more Indian language to make both private and professional life easier in India, however the generally good level of English spoken in most research environments means that learning Indian languages is not necessarily a priority for European researchers based in the country.

Unsurprisingly, the length of time spent in the country seems to have an impact on the language skills of the researchers: for example, the two researchers with a good understanding of Tamil have been based and carried out research in India for a number of years. Both researchers are at post-doctoral level, female and one of them is married to an Indian citizen.

On the other hand, the one European researcher with no knowledge of any Indian language explained that although he has been based and established his career in the country for over six years, it is not necessary for him to speak an Indian language as he works in an international research institute with primarily non-Indian colleagues where the working language is English.

6.2.2 Europe Based Interviewees: Background

Out of the twelve interview partners based in Europe:

- 5 were based at pre-doctoral level at university
- 3 were employed as senior researcher at university
- 2 were employed by public sector research institutes
- 1 was based at post-doctoral level at university
- 1 was employed by a private sector company

Motivations for collaborating with India

Most Europe-based researchers interviewed indicated that their main motivation to get involved in research collaboration activities with India was their specific research interest in certain fields. In the majority of cases, the professional interest in India was motivated by the fact that a country as divers and different to Europe as India has the potential to broaden the scope of research, apply methods and technologies in a different environment, especially in the area of environmental / agricultural research. This was seen as the main added value of increased Europe-India research collaboration. It can be said that for these researchers, they did not initially consider India in their field of research, but developed an interest in the country at a later stage after gathering a substantial amount of expertise in their field. Examples include a Romanian researcher in the field of urban planning who developed an interest in the way Indian authorities deal with the issue of slums compared to the way this issue is approached in Romania.

In a few cases, the field of research was directly linked to India. Examples include research on European workers moving / being seconded to India to work, research on gambling in urban India, and a research project on the history and anthropology of Sikhism.

Some interviewees experienced difficulties when trying to collaborate with research institutions in India. Even though cooperating with India was seen as highly interesting and beneficial for researchers on both sides by European researchers, it was pointed out that the structures of the research environment in India and especially the academic approach at universities for example, are very different from those in Europe. The strong hierarchy in Indian research institutions, the sometimes inadequate infrastructure in terms of internet access and equipment, as well as administrational barriers with regard to obtaining research accreditations especially for field research were given as examples to illustrate these differences. A certain amount of hesitation on the Indian side with regard to Europe-India research collaboration was also felt by the interviewees, and one researcher stated: "*Indian researchers are very competitive and protective of their knowledge. Researchers and authorities often fear a "brain-drain" through extensive knowledge sharing and researcher exchange programmes, and have to be convinced that a stronger international collaboration in research is beneficial for their country as well".*

Length of time involved in collaboration with India

Three of the 12 Europe-based interview partners got involved in research activities with India over ten years ago, two of them through their post-graduate studies and one through his role at the physics department at his university.

The remaining nine interviewees have been involved in research activities with India within the last seven years, of which four researchers only started their involvement in the last three years, indicating an increased interest in European-Indian research collaboration in recent years. This was also supported by several European researchers (based in France, Sweden

and Denmark), who claimed that the interest in a research collaboration with India has *"increased at the same rate as the research – capabilities of India have exhilarated."*

Work experience in India in the past/future

Two of the 12 Europe-based interview partners have spent extensive amounts of time in India, undertaking research and carrying out fieldwork as part of their studies at different stages of their university education. The duration of their visits was ranging from six - 12 months at a time, with one of the researchers spending 3.5 years overall in the country. In both cases, no further visits were planned but a keen interest in visiting India in the future and an open mind regarding possible paid employment in India was stated.

Four of the 12 Europe-based interview partners indicated that they had visited India several times for work in the past, staying between one – three months at a time. Reasons for these visits included university degree – related research as well as two professional researcher exchanges. All four interviewees stated to have visits of a similar scope in terms of duration and research activity planned for the future.

A further four researchers stated that their work experiences in India were limited to short stays of one to two weeks at a time, attending conferences and networking with other researchers in the field. One interviewee from a university background frequently visited India to give lectures at an Indian university and has recently been offered a visiting professorship which he is now considering to accept. A senior researcher working at a private company in Europe stated to have established a range of professional contacts in India and is considering relocating to the country permanently.

Only two interviewees stated that they had not yet visited India. Of these, one interviewee stated that this was mainly due to a lack of funding and opportunities. He was nevertheless interested in future opportunities to visit the country, whilst the other researchers had no such ambitions for reasons that were not disclosed.

Considering the above, only two of the 12 Europe-based researchers have not had any exposure to the working environment in India at all. The remaining ten researchers have gained different levels of work experience, with the majority of longer visits having taken place in a university – education context rather than in the from of paid employment, which was only the case for three researchers.

6.2.3 Information and Services for European Researchers

Researchers interviewed (India and Europe based) have similar opinions on the types of information that a EURAXESS Links India network should provide:

European researchers based in Europe and India suggested that a EURAXESS Links India network should provide the following information:

- Fields of expertise and contact details of scientists and research institutions in Europe and India, i.e. "who does what" (by field of research, by nationality, by location in India)
- Fields of expertise and contact details of European and Indian research institutions as this is not known and institutes often work in isolation;

- Specific information on collaboration opportunities; Information on who is looking for collaboration in specific fields;
- Information on cultural differences.

Information on researchers and research institutions:
Interviewees based in Europe and India mentioned that it would be interesting and useful to learn if there are other European researchers in India conducting similar research. They went on to say that a EURAXESS Links India network might be able to facilitate in this respect. Personal contacts are perceived as very important in India, both with European and other expatriate researchers as well as with Indian researchers particularly those at a senior level due to the hierarchical nature of the Indian research environment. Information on research institutions was also cited as an area for support.

Information on collaboration:
Increased up-to-date information on current and upcoming research opportunities and opportunities for collaboration, including information on PhD programmes, calls for papers, job opportunities, exchange programmes, visiting positions, summer schools etc. has been mentioned as crucial for improving research collaboration. Especially information on short-term collaboration opportunities was seen as important, as *"shorter visits provide a good way in".* In addition, information on present collaborative projects and on the success of past research collaboration as well as the expertise of the different partners involved was mentioned by some of the India-based researchers to be useful. Information on individual researchers as well as research institutions interested in collaborating in a specific field was also cited.

Information on cultural differences:
Europe- and India-based interviewees also both cited information on cultural differences between India and Europe. It was indicated that both sides take different approaches to research and have different ways of communicating and that it would be useful to receive more information on these issues in order to facilitate mutual cooperation. This also includes information on difficulties regarding visa and research accreditations, as well as information on accommodation for researchers looking to stay in India for longer periods of time. Interviewees mentioned vast differences in standard and price, stating that accommodation through Indian higher education institutions such as the Indian Institutes of Technology (IIT)[24] and the Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR)[25] provide a fantastic yet unknown opportunity for facilitating longer research assignments tied to a tight budget. IIT accommodation are said to also provide networking opportunities and general assistance to researchers that would otherwise stay at more isolated places such as hotels and guesthouses.

Other types of information mentioned by individual interviewees include:

- Sources of funding in India and Europe. Information on both bilateral (MS-India) and EU-India funding schemes;
- Timely information on workshops and events in different parts of India, as information is often available too late and submitting papers or speaking at events is not possible anymore;

[24] Example: http://www.iitd.ac.in/
[25] http://www.jncasr.ac.in/

- Major developments in specific fields of research, especially in Indian research as this is often not visible;
- Information on available technology in India;
- Information on archives and libraries;
- Information on available statistics and data;
- Information on middle and long term trends in research funding;
- Also information on multilateral activities as it is important to stay informed about research activities outside of the EU, e.g. USA-India research collaboration;
- Information on collaboration with industry; and
- Information on where to publish (joint) research at a global level.

Researchers interviewed (India and Europe based) have similar opinions on the types of services that a EURAXESS Links India network should provide:

With regard to how a EURAXESS Links India network might deliver the requested information to European researchers, interview partners both based in India and in Europe seemed to be most interested in the following services:

- European researchers in India (or collaborating with India) contact database including CVs and list of publications, by research field;
- Database of existing research collaboration projects between India and Europe;
- A tool to match potential partners for research collaboration, to *"make collaboration happen quicker".* SASNET have a similar function, a database to trace Swedish scholars who work with India[26];
- Research funding search tool
- Research facility ranking tool

Interviewees explained that a network of European researchers in India would be of great importance to the exchange of experiences and expertise. Interviewees added that a EURAXESS Links tool would encourage researchers and organisations to organise networking meetings for a general exchange of information. Invariably, networking opportunities such as this can often lead to future research collaboration.

A contact database:
A European researchers in India (or collaborating with India) contact database including CVs and list of publications, by research field was mentioned several times during the interview series as a tool that would substantially support collaboration amongst researchers. A number of interviewees added that it would be useful if this contact database would also give researchers the option to indicate any specific current or possible future interest in fields of collaboration. Researchers interested in finding partners for collaboration could then contact other researchers specifically about their collaboration interest registered on the database.

Interviewees also indicated that it would be beneficial to have a database of already existing research collaboration between India and Europe, outlining research topics, contact details and dates of the research project. It would then be easier for researchers to identify possible scope for collaboration as more information on the expertise developed would be publicly available. In

[26] http://www.sasnet.lu.se/

addition, this database could include information on how the tasks and responsibilities were shared amongst the collaborative partners, and how successful this partnership work was overall. Interviewees indicated that this would give them a useful insight into the practicalities of partnership working and indicate feasibility regarding future collaborative projects.

A research funding search tool:
The provision of a research funding search tool was seen as indispensable, as securing future funding is very important for researchers in India as well as Europe in order to finance their projects. Therefore a funding search tool should provide information on funding sources for European researchers both in India and Europe, such as on application procedures, requirements for applicants, deadlines etc. It was added that ideally the EURAXESS Links India network would provide consolidated information on funding available through EU institutions as well as national institutions of the individual EU Member States. A number of interviewees stated that a funding search tool should also cater for Indian researchers that work in close collaboration with Europe, and provide an easy access with consolidated information on funding to Indian researchers who are often confused by the array of funding sources at EU as well as Member State levels.

A tool to rank research facilities:
A EURAXESS Links India Network could also provide information on good laboratories and research facilities in India that are open to foreigners, and a tool to rank research departments and facilities according to their personal experiences. Feedback from interviewees suggests that information on good research institutions in India is currently lacking. As mentioned above, this also applies to the issue of appropriate accommodation for European researchers in India.

Other types of services mentioned by individual interviewees include:

- Help with accommodation, visa and other practical issues;
- Research articles database;
- Help with access to material in India (access to archives and libraries, electronic versions of journals);
- Provide communication platform to share knowledge and experience by research area;
- Monthly Email alerts/Newsletter for European calls for proposals, funding, fellowships and job opportunities;
- Yearly event for all relevant researchers to increase collaboration;
- Support for Indian researchers to meet EU application standards;
- Tags / keywords tool to find specialists;
- Instant messaging service to share ideas online;
- Announcements of new study programmes and publications; and
- Information on university India-departments in Europe.

Researchers interviewed are partly in favour of a stronger cooperation between European research institutes in India:

The EURAXESS Links India network could facilitate a stronger cooperation between institutes, which often “do their own thing” and work to an extent in isolation. However, it was also stated

that cooperation via research institutes might be less direct than via contacts between researchers.

Researchers interviewed are interested in collaborating with Indian researchers in India:

Many researchers stated that they have no strong preference; however some cited that they can collaborate with other European researchers more efficiently in Europe. It was cited that contacts to Indian researchers in India are important and helpful regarding access to archives and data, arranging research permissions and field research, and for translating material.

Researchers interviewed are generally very enthusiastic about the development of a EURAXESS Links India network

All participants from the telephone interview programme are in favour of the establishment of a EURAXESS Links India network. European researchers based in Europe and India stated that this sort of network is currently missing and that its establishment would facilitate the exchange of information and expertise.

One interviewee indicated that as well as promoting research collaboration amongst universities and research institutions and between universities and private sector companies, a EURAXESS Links India network could also stimulate research collaboration outside the universities and research institutions, for example in the private sector. It was stated that it would generally be beneficial to have more information about these opportunities, which could be advertised in the network.

It was argued that researchers have to spend a lot of time to search for information online. Therefore, it was stressed that a EURAXESS Links India network needs to be a very active base providing effective networking possibilities in order to motivate researchers to participate and to add real value to researchers. This could be done through the establishment of small, flexible, easily accessible and field specific sub-networks, such as on healthcare, law etc. The information provided should also be consolidated, i.e. include information on opportunities from all EU Member States to make it easier and less time consuming for researchers who currently have to retrieve this type of information from individual country-specific websites.

6.2.4 Involvement with other networks and contact with Embassies

India-based researchers interviewed are not part of their national S&T networks in India

Interviewees were often not aware of the existence of such networks. Those who were aware of this provision were not part of these networks.

Majority of researchers interviewed are not involved in any network of international research in India or dealing with India.

The majority of European-based interview partners are not involved in any network of international research in India or dealing with India. Only four of the Europe-based researchers have been involved in the following international networks[27]:

- Marie Curie
- Humboldt
- Dorothy Hodgkin fellowship
- EU Urban knowledge Network
- International Research Network on Housing, Ethnicity and Policy
- NORDUnet

The other researchers stated that they were only involved in their country's national networks. National networks mentioned were:

- Copenhagen South Asian Network (CSAN)
- Swedish South Asian Studies Network (SASNET)
- South Asian Anthropologists in England

None of the India-based researchers was involved in any other network of international research in India or dealing with India. Even though names such as Marie Curie or Humboldt were recognised by all six researchers, none of the interviewees had been actively engaged in any of them. Instead, the researchers stated to be involved in national networks instead, such as the DAAD (Germany), which is also a partner organisation of the Humboldt network, or CEFIPRA (France). An Indian-based network mentioned during the interviews was the Indian Council for Agricultural Research (ICAR).

Researchers interviewed see their National Embassies as useful first points of contact

The researchers interviewed indicated that they would usually get in touch with their national embassies if they have plans to travel to India; however reasons to do so were more of a practical type such as arranging work-, study-, or research visas. Only two researchers stated that they contacted their national embassy with regard to their professional work as researchers in India.

Obtaining research visas was seen as a barrier by a number of researchers, as was obtaining permission to conduct field research. The EU Delegation to India has not been contacted very frequently by interviewees based either in India or Europe. Most stated that their first contact point would be their national embassies with regard to practical issues.

6.2.5 Experience of Europe-India Research Collaboration

Researchers interviewed have little experience with Europe-India S&T cooperation

[27] The EU Urban knowledge Network and the International Research Network on Housing, Ethnicity and Policy was cited by the same person.

A couple of the India-based interviewees indicated that they had participated in Europe-India S&T cooperation. Where these interviewees had experienced research collaboration it has usually taken place between India and the researcher's home country in Europe.

Out of 12 Europe-based interviewees, six indicated that they are or have been involved in research collaboration with India. In these cases, research collaboration has primarily taken place between university departments and, in one case, a research institute. This collaboration has take the form of seminars and conferences, exchange of staff and students, PhD supervisions, research projects or the joint publication of books and reports. Those Europe-based researchers interviewed with no experience in Europe-India S&T cooperation indicated that they are very interested in participating in future collaboration.

Researchers interviewed agreed on the barriers for Europe-India research cooperation

Researchers mentioned a difference in attitude of Indian researchers with regard to knowledge sharing, and a perceived hesitation regarding research collaboration due to a fear of a "brain drain" through qualified Indian researchers working abroad via exchange programmes. Differences were also mentioned regarding the European and Indian research environments. The more hierarchical nature of the Indian academic system was mentioned as sometimes counterproductive to research collaboration between Europe and India.

Whilst Indian researchers were generally perceived to work at a very high academic level, low standards in terms of infrastructure, equipment, technical know-how and the ability to meet funding application requirements were also seen as barriers to cooperation. In addition, the high administrational burden, and especially the length of time required to organise collaboration, field visits and obtain research permissions has been perceived as a substantial barrier for cooperation.

Researchers interviewed agreed on the benefits of Europe-India research cooperation

Knowledge sharing and mutual learning were seen as the most valuable benefits of Europe-India research cooperation, as well as the opportunity to apply research methods and equipment in extremely diverse areas (especially with regard to the field environmental research). The large number of very driven students and professors working at a high academic level was also mentioned as a substantial benefit for European research.

Fast developments in most areas of research and the increasing investment in research in India as well as the need to strengthen soft-power relationships to counterbalance the traditionally strong USA-India relations were also seen as reasons that warrant an increased Europe-India research collaboration.

As a last point, researchers underlined the fact that Europe can substantially support India's economic development through research cooperation and contribute to poverty alleviation in India.

Researchers interviewed only use a limited range of sources to access information on research opportunities and vacancies in Europe and India

Interviewees stated that their existing roles came about through personal contacts established through university education, fellowships or internships.

Europe-based researchers stated that there is a lack of available information about research opportunities and vacancies in India. Again, information is mainly obtained through private contacts. The internet was mentioned as another main source of information. Interviewees specified that they would search for research opportunities and vacancies on specific company and university department websites rather than using general search engines such as Google. In addition, newsletters of a number of research institutes such as ICRESAT[28] and SASNET[29] were mentioned as a useful source of information.

Researchers interviewed are mostly familiar with European research networks and funding programmes but, as yet, have not participated in them.

Half of the India-based researchers are familiar with the European Research Area, the Seventh European Research Framework Programme and the European Research Council, but had not participated in any of them. One interviewee mentioned that he found theses not transparent and accessible enough. Three researchers indicated that he had not heard of any of the above mentioned networks and programmes.

Most Europe-based researchers are (apart from two interviewees) familiar with the above mentioned networks and programmes, in particular with the Seventh European Research Framework Programme. Again, very few of them had actually participated in any of the networks or programmes and their transparency and accessibility were mentioned as areas for improvement. Three interviewees stated that they have applied for funding through the European Research Framework Programme. One interviewee criticised that successfully applying for funding from the Seventh European Research Framework Programme is difficult as funding priorities sometimes seem to have been designed with already existing specific initiatives in mind.

6.2.6 Indian researchers involved in Europe-India research collaboration

During the telephone interview programme, the evaluation team also spoke to a small sample of Indian researchers strongly involved in Europe-India research collaboration. This was seen as a useful exercise, as a network for European researchers in India or collaborating with India would inevitably concern and address Indian researchers as well. All of the interviewees were either permanently based in Europe or have spent extensive periods of time in Europe throughout their university education. All researchers responded positively to the types of information and service the EURAXESS Links India network could offer. From their point of view, the following aspects would warrant an increase of support of research collaboration between Europe and India through the EURAXESS Links India network:

[28] http://www.icrisat.org/
[29] http://www.sasnet.lu.se/

"There is a lack of information and resources. It is hard to find the right people to cooperate with, and there is no service for this. The network should help to do this."

"The different research environments are interesting. Europe can test new technology in India and India could learn from Europe. Both sides would benefit from a stronger cooperation. Testing new technology could definitely be an area of cooperation."

"A EURAXESS Links India network would be useful as there are no channels for communication in research at the moment."

"The network should provide a platform to make Europe-India research and researchers in this field more visible."

"There should be more opportunities for collaboration, which are more open and less administrational. This is especially difficult in India, where even collaboration between universities at a national level is difficult. Communication facilities in India don't work well and this needs to be addressed. The network should also facilitate researcher exchanges."

A Study of European Researchers working in and collaborating with India

In preparation for the launch of EURAXESS Links India

(A networking tool for European researchers with links to India)

Final Report - Annex

Study commissioned by:

European Commission, Directorate-General for Research

Delegation of the European Union to India

Survey conducted and report produced by:

the evaluation partnership

A Study of European Researchers working in and collaborating with India

Final Report - Annex

Submitted to:
European Commission
Directorate General Research
Unit C.4.
B-1049 Brussels
Belgium

Submitted by:
The Evaluation Partnership (TEP)
June 2010

Annex 1: Online Survey

Section 1: Background Information

1. What is your current research position?

Pre-doctoral	
Post-doctoral	
Senior researcher	
Other (please specify)	

2. Which of the following best describes your field of research?

Food, agriculture and fisheries	
Health	
Chemistry	
Earth sciences	
Engineering	
Socio-economic sciences and humanities	
Mathematics and computer science	
Physics	
Nanotechnology and material science	
Environment	
Energy	
Robotics	
Transport	
Space	
Biotechnology	
Information and communication technologies	
Other (please specify)	

3. Which of the following best describes your workplace?

University - Higher education sector	
Private sector company	
Non-governmental organisation (NGO)	
Research institution public sector	
Research institution private sector	
Other (please specify)	

4. In professional terms, where are you based?

Based in India	
Based in Europe	
Based elsewhere (please specify)	

If you are based in India, please move to question 5.1a
If you are based in Europe or elsewhere, please move to question 5.1b

Based in India:

5.1a In which city are you currently based in India?

5.2a For how long have you been based in India?

Less than 2 years	

2 to 5 years	
6 to 10 years	
10 to 14 years	
15 years +	

5.3a How long do you plan to stay in India?

For a maximum of 2 or more years	
Between 2 and 5 years	
Between 6 and 10 years	
Between 10 and 14 years	
More than 15 years	

5.4a Which one or two of the following best describe why you came to India?

Participation in a collaborative research project	
Opportunity to study or work with a particular research team	
Company relocation (business R&D or commercialisation opportunity)	
Interest in Indian culture	
Friends or family connections	
Other (please specify)	

5.5a If applicable, please specify the name of any European – Indian research programmes, schemes, funding mechanisms, fellowships or grants that you are / have been involved in (and, if possible, state whether they are bi-lateral, regional or other types of initiative).

Based in Europe or elsewhere:

5.1b In professional terms where are you based?

5.2b What best describes the way in which you have collaborated with India in your field of research?

I have been involved in the past and I am still involved in one/several collaboration activities with India.	
I have been involved in the past in one/several collaboration activities with India, but I am not anymore.	
I am currently involved in one/several collaboration activities with India, for the first time.	
I am not nor have been involved in any collaboration activity with India but I'd like to collaborate in the future.	

5.3b If applicable, please specify the name of any European – Indian research programmes, schemes, funding mechanisms, fellowships or grants that you are / have been involved in (and, if possible, state whether they are bi-lateral, regional or other types of initiative).

5.4b If you have been or are involved in research activities with India, when did this start?

Other (please specify)	
1 year or less than one year ago	
Between 1 and 2 years ago	
Between 2 and 5 years ago	
Between 5 and 10 years ago	
More than 10 years ago	
Not applicable	

5.5b If you have been or are involved in research activities with India, how many times have you visited India in the last three years for professional reasons?

No visits	
One visit	
Two visits	
Three visits	
Four visits	
More than four visits	
Not applicable	

5.6b On average, how long were your professional visits to India?

No more than a week	
Between 1 and 2 weeks	
Between 2 and 4 weeks	
Between 1 and 2 months	
Between 2 and 4 months	
Between 4 and 6 months	
More than 6 months	
Other (please specify)	

Section 2: Information and Services for Europe

6. What would you expect to gain from networking with other European researchers based in India or involved in research activities with India? How useful would the following be to you?

	Very Useful	Useful	Neutral	Not very useful	Not useful at all
Increased and improved contacts with other researchers in Europe, India and other countries					
Increased and improved contacts with scientific organisations in Europe and India					
Social networks					
Practical information on living and working in India					

7. Which types of information should the network provide? How useful would the following be to you?

	Very Useful	Useful	Neutral	Not very useful	Not useful at all
Europe-India cooperation opportunities					
Sources of funding from Europe and/or India					
Career opportunities in Europe and/or India					
Visiting professorships					
Scientific conferences					
Summer training courses in Europe and/or in India					
Information about EU and Indian research policies					

8. Which types of services should the network provide? How useful would the following be to you?

	Very Useful	Useful	Neutral	Not very useful	Not useful at all
European researchers in India contact database					
Network electronic newsletter covering European and Indian S&T news					
Research article database and archive					
Funding search tool					
Frequently asked questions (FAQs): e.g. Research funding, job opportunities in Europe or in India					
Local contact point for help and advice					
Mechanism for input to EU research policy making					
European researcher online discussion fora / bulletin boards					
Regional meetings / conferences with other European researchers					
Annual networking event, e.g. conference, career fair, of European researchers in India					
Email alerts for European calls for proposals, fellowships, job opportunities etc.					

9. Do you have any suggestions for the type of information and services that could help you to network with other European researchers in India?

10. Are you part of a national (your own country) science and technology network in India?

No	
Yes (please specify)	

11. Have you had any contact with your Embassy or the Delegation of the European Union to India?

No	
Yes - If so, in what capacity	

Section 3: Experience in Europe-India Research cooperation

12. What is your experience of Europe-India science and technology collaboration and research opportunities in Europe and in India?

I have worked collaboratively with other researchers in Europe whilst in India	
I am interested in research collaboration with researchers in Europe in the future	
I have worked collaboratively with researchers in India whilst in Europe	
I am interested in research collaboration with researchers in India in the future	
I know how to find research vacancies in my country	
I know how to find research vacancies in other European countries	
I know how to find research vacancies in India	

13. Do you have any further comments to make on your personal experience in this area?

14. How do you access information on research opportunities and vacancies in Europe and in India and / or Europe-India S&T cooperation? Please select three sources of information that you use most:

Colleagues/friends	
CORDIS & EUROPA websites	
Country-specific research portals	
European Researcher's Mobility Portal	
Internet search engine, e.g. Google	
Research publications/journals	
University/research institution websites	
I do not access information on research opportunities and vacancies in Europe, in India or Europe-India S&T cooperation	
Other (please specify)	

15. What difficulties have you faced with regard to EU-India research cooperation?

16. What opportunities do you see with regard to EU-India research cooperation?

Section 4: Researcher Profile

What is your nationality?

Gender

Male
Female

What is your age?

25 Years Old	
25 – 35 Years Old	
36 – 45 Years Old	
46 – 55 Years Old	
56 + Years Old	

We are planning to present the findings from this study to a professional audience in Delhi this summer (2010). Are you interested in being kept up to date with the development of EURAXESS Links India and the planned event?

Yes	
No	

Please enter the following details to be kept up to date with the planned event and the development of EURAXESS Links India (Optional):

Email address:

Family name:

First name:

Name of institution you work for:

Street:

Zip code:

City:

Country:

Do you give your consent to being contacted to take part in a follow-up telephone interview?

Yes	
No	

Do you give your consent for your personal details to be used to develop a contact database for European researchers in India?

Yes	
No	

Thank you very much for completing this survey. This survey will not be used for any commercial purposes.

For more information on Euraxess and European research opportunities:

- Euraxess – Researchers in motion: http://ec.europa.eu/euraxess/index_en.cfm
- Euraxess Links USA: http://ec.europa.eu/euraxess/links/usa/index_en.htm
- Euraxess Links Japan: http://ec.europa.eu/euraxess/links/japan/index_en.htm
- Euraxess Links China: http://ec.europa.eu/euraxess/links/china/index_en.htm

Annex 2: Responses regarding types of information, services and benefits likely to be of most interest to European researchers in India

For the purposes of the aggregate analysis of the types of information, services and benefits likely to be of most interest to European researchers in India, the responses have been coded and each has been assigned a numerical value representing how useful the respondents perceived it to be.

	Very Useful	Useful	Neutral	Not very useful	Not useful at all	Total Responses	Avg Scores
	5	4	3	2	1		
Increased and improved contacts with other researchers in Europe, India and other countries	189	112	13	3	0	317	4.54
Increased and improved contacts with scientific organisations in Europe and India	166	119	22	5	0	312	4.43
Social networks	81	114	93	18	4	310	3.81
Practical information on living and working in India	54	96	93	46	16	305	3.41

	Very Useful	Useful	Neutral	Not very useful	Not useful at all	Total Responses	Avg Scores
Sources of funding from Europe and/or from India	233	64	9	1	1	308	4.71
Europe-India cooperation opportunities	200	102	12	0	1	315	4.59
Scientific conferences	154	121	31	8	0	314	4.34
Visiting professorships	162	101	35	10	2	310	4.33
Information about Indian and EU research policy	112	134	52	9	2	309	4.12
Summer training courses in Europe and/or in India	115	114	61	11	4	305	4.07
Career opportunities in Europe and/or in India	118	88	75	18	5	304	3.97

	Very Useful	Useful	Neutral	Not very useful	Not useful at all	Total Responses	Avg Scores
Funding search tool	172	109	25	1	1	308	4.46
Email alerts for European calls for proposals, fellowships, job opportunities etc.	164	113	28	4	2	311	4.39

European researchers in India contact database	131	139	40	4	1	315	4.25
Frequently asked questions (FAQs): e.g. Research funding, job opportunities in Europe or in India	100	145	56	7	1	309	4.09
Research article database and archive	124	114	54	18	4	314	4.07
Local contact point for help and advice	98	123	74	13	0	308	3.99
Regional meetings / conferences with other European researchers	100	122	73	16	2	313	3.96
Annual networking event, e.g. conference, career fair, of European researchers in India	95	117	73	18	4	307	3.92
Network electronic newsletter covering European and Indian S&T news	82	133	76	16	1	308	3.91
Mechanisms for input to EU research policy making	79	134	77	16	4	310	3.86
European researcher online discussion fora / bulletin boards	50	114	105	32	6	307	3.55

Annex 3: Telephone Interview Programme Interview Guide

Interview Guide for EU Researchers related to India (EURAXESS Links India)

Objectives of interview:

- **To enhance the findings from the survey**
- **To gain a deeper understanding of what researchers would want from EURAXESS Links India**

Interviewee name:	
Position and institution:	
Length of time in position:	
Interview date and place:	

Introduction

1. Please describe your current research position/field of research and how this is related to India.

   (Establish whether the interviewee is based in India or not).

EU researchers based in India

2. Please explain how and why you got involved in any research collaboration activity with India?

3. How long have you been in India and for how long are you intending to stay?

4. What is your knowledge of the Indian language(s)?

EU researchers <u>NOT</u> based in India, but involved in research collaboration activities

5. What is/was your motivation to get involved in any research collaboration activity with India?

6. When and how did you get involved in research activities with India?

7. Have you ever been working in India or do you have plans to do so? (Ask for frequency of visits for research purposes. In case they have been based in India in the past, ask for the reasons to return to Europe)

Information and Services for European Researchers

8. In your opinion, what kind of information (if they do not have any immediate ideas give the interviewee some examples here, e.g. **sources of funding from Europe/India, career opportunities in Europe/India**) should EURAXESS Links

India provide (or what kind of information would be useful to you as a researcher who collaborates with India)?

9. In your opinion, which types of services (if they do not have any immediate ideas give the interviewee some examples here, e.g. **European researchers in India contact database, research article database etc.**) should EURAXESS Links India provide?

10. Do you think a stronger cooperation between European research institutes in India (e.g. DFG, Research Councils UK, BRGM, etc) would be useful?

11. Are you more interested in working with Indian researchers or with European researchers in India? Why?

12. Overall, do you think that a EURAXESS Links India network would be useful?

Personal involvement

13. Are you part of a national (your own country) science and technology network in India? Please explain.

14. Have you been involved in any other network of international researchers in India (EMBO, Humboldt, Marie Curie) or dealing with India?

15. Are you in touch with your embassy or the EU Delegation to India to get information and contacts with other researchers?

Experience in Europe/India Research Collaboration

16. Do you have any experiences with research opportunities in Europe and in India and with Europe-India S&T cooperation?

17. Have you worked collaboratively with other researchers in Europe whilst in India? Are there any barriers to this?

18. What do you think are the main barriers for Europe-India research cooperation?

19. What do you see as the main opportunities of Europe-India research cooperation?

20. How and to what extent do you access information on research opportunities and vacancies in Europe and in India and on Europe-India S&T cooperation (colleagues/friends, websites etc.)?

21. Are you familiar with
    - The European Research Area (ERA)
    - The 7th European Research Framework Programme
    - The European Research Council?

Any other comments:

22. Is there anything else you would like to add?

Thank you very much for your time. We really appreciate this.