INDIA IP PLATFORM

Cooperation between India and the European Union: A long term view

Reply to the *Draft roadmap for cooperation between India and the European Union*
for the workshop of SFIC (Strategic Forum for International Science and Technology Cooperation)

on 26 March 2014

The difference between two regions

The *Draft roadmap for cooperation between India and the European Union* is an interesting document because of its specificity and the pointers it gives of where to look for successful and important science and technology collaborations between the two regions in the short and the middle long term. But, it also has one big lacuna: it does not take into account that the contexts of scientific research are very different in Europe and India. Because of this, a range of questions that are necessary to develop a roadmap for cooperation between India and the EU are not addressed: Why is scientific cooperation between the two regions not as developed as its potential seems to promise? Where exactly does the potential for collaboration lie? What are the specific characteristics of the European and Indian contexts that make them attractive for each other with respect to research and innovation? Are there any? If yes, how to address them properly, so as to come to a long term, stable modus operandi?

The background of two cultures

The India Platform is based at Ghent University (B) but exists of a network of European and Indian partners. Its vision is based on decennia long research into the differences between the dynamics of India and Europe as independently developed cultures. One of the differences lies precisely in the development of science and technology. It would be wrong to say that there is a symmetric situation here. Europe has a centuries-old tradition of (1) building research teams and (2) transferring results from academic research to business. The latter is what we call the 'valorisation' of research or 'technology transfer'. Research is mostly located at the universities and, because of this, embedded in the context of higher education. On the one hand, this situation allows students to benefit directly from new research results and insights. On the other hand, it stimulates researchers to remain involved in educational activities. The result is the strong and extremely important European tradition of linking research and education to each other.

A typical aspect of this research culture is its evidence-based approach. Whether it is in medical technology, natural sciences, engineering or elsewhere, results reach the market and the customers only after they are tested and re-tested by different research teams. PhD students and other researchers are simultaneously trained in both research and its valorisation. This is one of the dimensions which makes Europe's research culture unique. This is probably one of the reasons why Europe has always been very productive in innovative research and has a high number of Nobel Prize winners.

The future of two cultures

Today, the European continent is facing a huge problem: its population is greying and its students are diminishing in number. The consequences are already visible on the job market: in Belgium, there is a structural shortage of at least 3.000 engineers. In Germany alone, there are 95.000 unfilled positions for engineers. This lack of qualified engineers costs Europe's largest economy an estimated 7 billion Euros annually. Some of the university laboratories are becoming emptier and emptier, irrespective of how good their facilities are, how much their professors are willing to teach and guide researchers, and how strong the research is.

India, on the other hand, has no shortage of bright students in applied sciences, medicine, bioscience engineering, etc. The country is also taking policy measures to expand its higher education system. However, although India counts a lot of brilliant researchers and good research institutes, these are not embedded in a general research culture as is the case in Europe. Because of this, the country loses many of its bright minds to foreign countries. If India wants to develop her knowledge capital, she needs to develop a research culture: an indigenous, fertile intellectual soil, which will bring forth excellent researchers in a structural manner. Once this soil is there, it will attract both foreign researchers to invest in the country and convince Indian researchers who are now abroad to come back to their country. New students will be educated and trained by these researchers and eventually a research culture will grow.

The way to contribute to each other's growth

Many higher education institutions, research institutes and companies in European countries recognise India as a country with high potential. Many of these institutions and companies also have researchers with expertise and experience who are willing to guide Indian researchers and students towards developing a research culture. The time is now right to bring together the knowledge, expertise, and experience of the long-standing European research culture with the enormous potential and multitude of bright minds of India. When European universities and companies begin to see it as their task to help India and her institutions to develop this kind of research culture, a different kind of relationship will also develop between them. This will be a relationship that goes beyond an instrumental one, lasting as long as there is a mutual gain. It will be a relationship of loyalty and trust. European students, researchers and employees will grow closer to their Indian counterparts and Indian students and researchers will develop loyalty towards their European partners.

One of the major problems for European universities and companies in India is creating this kind of long-term loyalty. The highly-skilled engineers and scientifically trained labour force in India has become used to hopping from job to job whenever this brings benefits to them. Precisely because of this, it becomes important for private companies, governments and universities from Europe to invest in research in India. They should not simply invest in research that is of immediate gain. They should think on a long term and invest in the creation of an Indian research environment that creates the conditions for further research. For young Indians this way of developing and being trained will be extremely attractive exactly because they will not be treated as mere employees or mere students.

To summarise:

Indian and European scientific cooperation should take into account that

(1) the typically European link between research and education is not generally present in India,

(2) investing in this link (and thus in the training of researchers) will not only generate a fruitful ground for the development of research culture in India,

(3) it will also generate goodwill towards Europe,

(4) and will enable long-term, stable relationships to grow between European and Indian research groups, governments and companies.

Questions for discussion

1. Will the current road map stimulate long-term cooperation and stability?
2. What are suitable strategies to go beyond instrumental collaborations and build long-lasting partnerships?
3. Can / Does SFIC want to actively stimulate long-term relationships?
4. If yes, it entails cultivating a research culture in India. How can this be done? Should it happen through projects, good practices, databases, workshops, policy officials meetings, or other instruments?
5. Should we think in terms of running research projects, educational projects, internship projects, training projects, or a combination of all of them?
6. Who should be the partners involved in the cultivation of a research culture in India? Should higher education institutions be involved? Should companies be involved? Should governments be involved? Which governments and on which levels?
7. Should differentiated strategies be designed with different instruments for short term, middle long term and long term results?

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