

Riding the wave of the latest Asian tiger: promoting UK / India science & innovation



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According to the think tank Demos, the geography of science is changing... rapidly. *"We used to expect new ideas to come from the universities and research laboratories of major companies in the US and Europe. Technology flowed from this innovative core to the technologically dependent periphery. No more. The core and periphery are being scrambled up. Places that were on the margins of innovation ten years ago – Bangalore and Pune in India, Daejeon in Korea, Shanghai and Shenzhen in China – are now essential stopping-off points in the continuous flow of people, ideas and technologies around the world.*

The rise of China, India and South Korea will remake the innovation landscape. US and European pre-eminence in science-based innovation cannot be taken for granted. The centre of gravity for innovation is starting to shift from west to east."

Charles Leadbeater: Demos report: *The Atlas of Ideas: How Asian innovation can benefit us all.*

India's economy is changing. The radical overhaul of the protectionist policies of the post independence era is paying dividends. Economic growth stands at 8% with no prospect of slowing down in the near future. India resembles China in having a huge population, but the similarity ends there. Unlike China whose phenomenal growth over the nineties we know all too well, India's economic growth is not based on low tech, mass manufacturing, but on knowledge. India's population is young (60% under 40), highly mobile and educated. It boasts 14 million graduates with less than 7 years' work experience, with 2.5 million additional science, engineering and technology (SET) graduates every year: one and a half times the

number in China and twice that of the US. All in a country where the literacy rate hovers at around 50% with around 43% receiving no schooling whatsoever.

0.8% of GDP (\$4.5 billion) is currently spent on R&D. The Indian Government intends to increase this to 2% by 2020. Last year the Government R&D budget was raised by 30%. Again it is tempting to make comparisons with China's expansion, but it is only really the staggering growth figures that can or should be compared. Unlike China, Indian policy has always supported science. Nehru was convinced that India's problems would be solved by Indian brains and so he created a network of elite institutions such as the Indian Institutes of Science and the Indian Institutes of Technology, that are still world-class teaching and research establishments. India has indigenously developed nuclear technology and space-faring capability. In other words the additional money being pumped into Indian science is not being used to create a science base, but to build on existing, extremely firm foundations.

The Demos report points out that while Asian science is on the rise and will dramatically change the way we do things in the future, this represents an opportunity not a threat to the western developed economies. The FCO's Science and Innovation Network (SIN) in India and elsewhere ensures that the UK is in a position not only to benefit from this expansion but also to influence its direction. India has a long tradition of collaboration with the UK, indeed the UK was seminal in the set-up of a number of India's elite institutions. However over the years the UK's position has been overshadowed by the US and

eroded by other countries such as France, Germany and Australia. The UK may be the partner of choice for most Indian researchers but, alas, it is no longer the partner in reality.

The SIN India team is involved in a number of initiatives designed to redress the balance and maximise opportunities. Gordon Brown recently announced the first six major awards and 23 standard awards under the UK-India Education and Research Initiative (UKIERI), for which there were over 350 applications. The SIN team is also working with the best of the unsuccessful applicants to help their proposed collaborations to go forward too. The UK-India Science and Innovation Council in June 2006 agreed to find ways to enhance collaboration in key areas. The SIN India team organises workshops, for example on optical fibres, next generation networking, earth observation and climate modelling. The team has also been working to put the UK at the forefront of Indian scientists' minds. Under the public diplomacy initiative: *"UK: Creating Tomorrow"* we have produced a series of six television programmes about innovative breakthroughs emanating from British science that will affect our lives in the year 2020. These programmes, entitled *Vision "2020"*, will be aired on Discovery India over the coming year and distributed as information packs.

The SIN team in India has a great deal of work ahead of it to redress the balance and maximise the opportunities. To do this it has recently been strengthened from four full-time staff to nine. This will help to ensure that it is able not only to survive the tidal wave of Indian expansion and influence but to surf the wave all the way to the beach.