

## From a disease sample base to an industry of choice

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Recently at the Bio 2003 convention in Washington DC, when an Indian minister remarked that India offers a diverse gene base from a variety of "races", one was left wondering whether the gentleman was hinting at offering the Indian population on a platter to MNC drug makers, as guinea pigs.

That revolting thought apart, India today is indeed looked upon as an ideal base for clinical trials. It is tempting to compare this with the "body shopping" phenomenon in the infancy of software exports industry in India that prompted an article in Washington Post to call Indian software engineers on H1B visas in the US as Cyber Braceros (Mexican laborers who immigrated to the US as farm hands).

Such branding notwithstanding, Indian software engineers have turned the country's biggest brand ambassadors world over. If India has to take its rightful place in the biotech universe then it must go beyond being a base for clinical trials and touting the variety of genes in our rich flora and fauna and diverse human races.

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Right after US President George Bush's address at the convention where he proclaimed US supremacy in the biotechnology sector will be protected at all costs, I met a gentleman who made me proud of being an Indian again within minutes. Krishnarao Appasani was among the first Indians to decode a gene in India under the stewardship of Prof G Padmanabhan, former director of Indian Institute of Science. Appasani now runs a company called Gene Expressions in Massachusetts.

Soon after, I asked an executive of a European biotech firm what she felt about India. Her reply wasn't surprising. "You people have done very well in software exports, I guess you should do great when it comes to informatics for biotech".

Is that it? What about our capability in stem cell research? Reliance Life sciences has been one of the 12 global organizations to get a US Presidential grant. What about MS Swaminathan's researches in rice varieties? What about the immense amount of works going on in CCMB, NCBS and several other CSIR labs? What about the core biotech capabilities in our private sector? Are we destined to climb the international biotech ladder only through bioinformatics?

Let us look at some of the keystone steps India needs to take in order to become a star in the biotech universe.

### **Communicate about Indian biotech's diversity**

Going by the number of times India figured out in the recent Bio 2003 convention in Washington DC, we need to work a lot in terms of communicating our capabilities. India's name was taken more with reference to the aids for controlling HIV, the lack of drugs, poor health infrastructure and experiments in GM foods.

If not for the Confederation of Indian Industry (CII) session on India, the country's potential would have been lost to a world which believes cutting edge science and technology should either emerge out of America or Europe.

Only two of the Indian states, Karnataka and Andhra Pradesh, had a presence in the exhibition section. CII was inconspicuous but for the moderately attended session on India.

Conventional wisdom says "marketing is not India's strong point". If that was proven wrong by Dewang Mehta and Nasscom, an ABLE or CII or AIBA can prove it wrong again. What India lacked at Washington was a focused single voice. To say the least, we were lost.

### **Government should nurture entrepreneurs**

As in the case of IT, entrepreneurs are crucial for biotechnology also. Unlike the IT sector, the biotech industry will not be able to grow fast without government intervention.

China has a robust biotechnology industry developing IP locally apart from being a preferred destination for drug manufacturing. The Chinese government has been nurturing the industry with policy and funds. Today, China is the only Asian country that can stand shoulder-to-shoulder with some of the best American or European biotech firms.

Early entrepreneurs in India are biotech professionals who might have put in valuable time in research and development. What they lack is access to world class laboratories and technologies. What we learn from the US and Europe is the close interaction between the private sector and the academic institutions. Entrepreneurs in the US have the option of choosing from a number of universities and the National Academy of Sciences to tie-up with for technical and scientific support. Unfortunately some of our best academic institutions are more interested in tying up with MNC drug companies and shunt out local entrepreneurs.

The government has to encourage academic institutions, the CSIR labs, PSUs, ISRO and scientific labs from the defense sector to open their arms to entrepreneurs. Nurturing a collaborative environment is the top most need for the Indian biotech industry. Without this our industry will lose out to the outside world even as they try to re-invent the wheel.

### **Network with international Indian biotech community**

During his tenure as the director of Indian Institute of Science, Professor CNR Rao set a rare precedent when he called upon Indian scientists across the world to come back to the country and take up assignments at the institute. In return he promised world class facilities and remuneration. That was the time of acute brain drain and his move was met with lot of enthusiasm.

Take a leaf out of Prof Rao's methods and network with the international Indian biotech community. Several Indians are in considerably influential positions in the global arena. They are a recognized lot and carry the tag of highly capable individuals. Bring them under a single umbrella and get their help in communicating India's capabilities in biotechnology and

pharmacology.

### **Make Kiran Mazumdar Shaw the Indian Mascot**

If one person who can perhaps carry the message of Indian biotech industry with conviction, it's Biocon's Kiran Mazumdar Shaw. She has the advantage which Dewang Mehta lacked - that of running a marquee biotech company out of Bangalore.

### **And finally**

Get the government of India to recognize the advantages of biotechnology and adopt it in the domestic scheme of things. Let there be no hindrances thrown by way of ignorance in the fields of agriculture and medicine for the benefits of biotechnology to percolate down.

Can we have a 2012 target to be announced by the Indian Prime Minister for exports of biotech services. Who will bell the cat? ABLE, AIBA or CII.

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