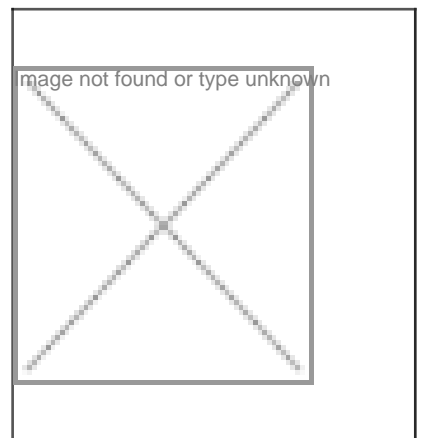


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case study

"All human actions have one or more of these seven causes: chance, nature, compulsion, habit, reason, passion, and desire." Aristotle

There is no better way to illustrate the potential than to substantiate it with successful examples. Here are a few stories of people who by virtue of their contributions to biotechnology have carved a niche for not only themselves but the stakeholders too.

The overwhelming response generated by the IPO of the first Indian biotech company, Biocon, is an example of teamwork, courage, and persistence. The credit for all this goes to Kiran Mazumdar-Shaw, who dared to become an entrepreneur and start a biotech company.

Her company is a role model for both the biotech and business communities. But things did not happen over night. She graduated in BSc Zoology from Bangalore University in 1973 and earned a Master Brewer degree from Ballarat College, Melbourne University in 1975. Kiran's venture into the biotech field was more an accident than careful planning. Back from Australia, armed freshly with a brewery degree, she found that women were not welcome in this field in India. But she had in her own word the "foolish courage". Her fascination for this new field (biotechnology) led her to start an office in a 3,000 sq.ft rented shed in Koramangala in December 1978. She started with an investment of Rs 1.5 lakh as a joint venture with Biocon, Ireland in which she held 70 percent equity. The first year's turnover was just Rs 10 lakh. Starting that way Biocon today is the leading biotech company in the country.

This journey, from scratch to now, has taken Biocon more than 25 years. Pointing this out and advising on the virtues of patience Kiran said, "We have taken 25 years. Entrepreneurs should not be in a hurry to build their companies. You got to build a very strong foundation. And once you build that strong foundation, you can do anything that will take off in an exponential way. That has been the success story of Biocon. We have spent the first 20 years of our business life just building a very strong foundation of systems, skills, and very strong code of ethics and integrity, which can now help us to take very powerful strategic directions. We know now that whatever sector we get into, we have the best skills in the country."

A doctor, a researcher and an entrepreneur Venkata Ravi Kumar Banda, is the person behind the country's first indigenous HIV diagnostic kit. Today, the kit is being used at premier medical institutes like the AIIMS.

When AIDS hit the Indian shores in a big way during the 1990s, the country used to import HIV diagnostic kits. Recognizing this as a major gap in the Indian health care system, Dr Ravi Kumar ventured into the manufacturing of HIV diagnostic kits by starting XCyton Diagnostics in December 1993 with an initial capital of just Rs 7 lakh. "When I started, opportunities for funding were very less. All financial investors were scared of biotech companies and were not willing to put money," reminisced Dr Ravi Kumar.

A medical doctor by profession, Dr Ravi Kumar completed his MBBS from JIPMER Pondicherry and practiced medicine for a short time. Later he joined the Indian Institute of Science, Bangalore to pursue post doctorate research. A brilliant researcher, he received Prof. Giri Memorial Gold Award for the best thesis and got an offer to work at the Astra Research Centre, India (ARCI). During his 8-year stint at ARCI, he developed a diagnostic kit for the detection of tapeworm and another for tuberculosis disease. This experience and exposure helped him to start on his own.

With a strong foothold in Elisa kits Dr Ravi Kumar is moving towards the development of rapid tests and polymerase chain reaction kits. Presently the company is developing DNA-based PCR kits for bacterial meningitis in children, rapid kits for neurocysticercosis and an Elisa kit for detecting pulmonary tuberculosis. Giving a word of advice to young entrepreneurs he said, "Actually biotech has long incubation before it yields results. One cannot be impatient. Biotech products die many times during developmental stages. Promoters should have the conviction to persevere with the idea and resurrect the product using R&D as the major weapon."

XCyton Diagnostics Ltd

Dr V Prakash has been at the helm of affairs at Central Food Technological Research Institute (CFTRI) since the past 10 years and under his leadership the institute has filed over 623 patents. He is the key driving force behind the institute supporting rural livelihood on one hand and entrepreneurship development on the other.

Dr Prakash had his early education at the University of Mysore and got his PhD degree in 1976. Further, he continued his research studies on a postdoctoral fellowship (1976-80) at the Texas Medical Centre, Houston and Brandies University, Boston. He returned to India in 1981 as a CSIR pool officer at CFTRI and rose to the position of CFTRI director in 1994. Mapping his career path, Dr Prakash said, "I started as a research fellow in 1970s, pool officer in 1981 and became director of the same institution in 1994. So one gets into a unique ambience of working with teachers, colleagues and studentsâ€”a rare opportunity indeed." Looking back, he recounted, "As a graduate student working on proteins, one of the thrills for us was to get a single band based on SDS page or a single sharp symmetrical peak in analytical centrifuge as one isolates a pure protein. My first paper in JBC as a PhD student was a thriller to me. But the area of life sciences, especially biotechnology is highly dynamic and ever changing. This area has the potential to give so much to the society today like health and food."

Dr Prakash has more than 140 publications in national and international journals; has presented over 340 papers in conferences; and is the author of six books. He has 33 patents to his credit including some in the US and Europe. He is a member of many national and international committees including the WHO, UNDP and UNU and is on the editorial board of several scientific journals. He is a recipient of numerous awards including the Sarma Memorial award, Kashalkar Memorial award, and SS Bhatnagar award among others.

An excellent scientist, a great visionary, he has been instrumental in steering the institute towards new standards of excellence by globalization of CFTRI technology. In recognition of his contribution to the food sciences he has recently been honored with the prestigious Padma Shree award.

He started Bharat Biotech in 1996 with a mission to produce Hepatitis B vaccine at an affordable price for the common man. It successfully launched and started the commercial production of Revac B (World's first cesium chloride free Hepatitis B vaccine) in 1998. In 2003, the company achieved many milestones under Dr Ella's Leadership. It launched typhoid vaccine, Typebar, started contract manufacturing of Haemophilus Influenzae B (HIB) conjugate vaccine (HibTITER) for Wyeth Lederle and launched Indikinase, a recombinant streptokinase in the market.

He is a classic example of scientist turned entrepreneur. Dr Ella was born in Tiruthani, near Chennai. He acquired his doctorate from the University of Wisconsin-Madison in molecular biology in 1992 and spent more than a decade conducting independent research and teaching in renowned universities in the US. Before embarking Bharat Biotech in 1996, he served as a professor (research) with Medical University of South Carolina (1993-96). He started his career as a research fellow with Indian Council of Agricultural Research, then joined Sandoz (I) Ltd as technical representative, moved to Bayer as technical officer, went to University of Wisconsin as research assistant among other things, before joining the South Carolina Medical University.

For Bharat Biotech, in spite of being a successful biopharma company today, the start was challenging and tough. Elaborating on this Dr Ella said, "When we (Dr Ella and his wife Suchitra) returned to India we brought together like-minded professionals from the US. Sold personal assets in the US to make our dream come true. There were so many challenges that we had to face. For the first time, I proposed to produce the Hepatitis B vaccine for one dollar in 1994. None of the financial institutions in India were prepared to believe this."

"The concept of bio-entrepreneurship is still new in India. There is no easy path and we have to create one for ourselves. This is the industry's biggest challenge. Scientists in our country follow the road lined with obvious well-defined rules and symbols. While the need for academic excellence is understandable, the world out there is waiting for safe, affordable, healthcare solutions that can affect millions of lives. It is biotechnology that can come up with answers," he added.