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BIOCON WAS HER BREW

She was on her way to Inverness to become a brewmaster in the land of Scotch when life took an unexpected turn. But that was probably the last lucky accident in the gritty tale of Kiran Mazumdar Shaw. Once she took the new road, she clearly knew her destination, and the twists and turns she would have to take to get there. It was a series of deliberate and conscious business and technology decisions, outsmarting the likes of Unilever, exhibiting the foresight and innovation to move from beer enzymes to cutting-edge drugs for diabetes and cancer patients that led her to Biocon, Bengaluru and biostimilars, touching billions of lives and, of course, made her India's first self-made woman billionaire. Ahead of the launch of an authorised biography of her success story on Thursday, Kiran Mazumdar Shaw tells Deccan Chronicle how she became the 'Mythbreaker'.

From papainpapa and enzymes to biopharmaceuticals and serving fires, tell us about how you made that hot and that transition.

When I started Biocon, I was driven by the spirit to create a business that would leverage science for the benefit of society through affordable innovation. I initially focused on making industrial enzymes, exploring ways in which to replace polluting chemical technologies with eco-friendly enzyme technologies. It was about disrupting industrial processes and it worked. My products succeeded in getting several industries to switch from using polluting chemicals to eco-friendly enzymes.

Having attained success in enzymes, I leveraged my knowledge of biotechnology to try and disrupt the healthcare industry by introducing affordable biopharmaceuticals to patients who needed them the most. Over time, we built the know-how, expertise and skills essential for developing cutting-edge biopharmaceuticals. We also built state-of-the-art world class manufacturing facilities to create global scale for producing high quality drugs at a cost that makes them affordable to a large global patient pool.

From wanting to 'open the world' through eco-friendly enzyme technologies, Biocon's mission has changed to 'lead the world' by developing affordable life-saving drugs for patients across the globe. What spurred me on this mission of making a difference to global health was the realisation that a significant proportion of the world's population does not have access to essential medicines and, where healthcare does exist, it is unaffordable.

Looking back, did you think you would one day become 'Madam Biotechnology', so to speak?

I graduated as a Master Brewer from the Ballarat Brewing School in Australia in 1992. My aspiration was to pursue a professional career in brewing. However, I was unprepared for the hostility and gender bias that I faced from the brewing industry. I was a woman in a male-dominated industry and a rejection that saw me turn to entrepreneurship quite by accident and set up a biotech start-up in India, where I leveraged my fermentation knowledge to produce enzymes and biopharmaceuticals instead of beer.

When I started Biocon, I was 25 years old with no business experience and limited financial resources. In my own entrepreneurial journey was an unusual career choice for women and biotechnology was a sector that too in a sector that no one was familiar with. Fueled more by drive and vision than by business expertise, I approached the venture with the single-minded aim of succeeding. I was determined to build a world-class biotechnology enterprise and show the world that it was possible to produce high quality, high technology products in India based on cutting-edge R&D.

The rest, as they say, is history. In retrospect, I would say it had been a long and eventful road to biotechnology.

That figure of Rs. 10,000 is interesting - that seems to have been the starting capital for both Biocon and Infosys. And the rise of the two companies seems to have been parallel. Even more interestingly, while in Narayana Murthy's case, it was wife Sudha Murthy who got things started with her savings, in your case, it was your husband John Shaw who got things started with his savings. Tell us about it.

In 1988, Unilever decided to exit the biotech business worldwide, of which I was a part. When they announced this deal, I said to Unilever, 'I may be a part of your deal, but I'm not willing to sign off on this. I have pre-emptive rights as a majority shareholder, so you have to give me the first right of refusal.' I told them I wanted to buy back my shares from Unilever. That was also the time when John and I got married, and then John and I got Arthur Anderson to broker the deal with Unilever. They came up with a valuation where they could buy out Unilever's stake in Biocon for about \$2 million. So John sold his prime and prized possession - a house in London - and bought out Unilever's stake and thus backed my venture and took a big bet on me and Biocon!

Now you sit on the Infosys board. Have you and Narayana Murthy/Sudha Murthy exchanged notes about all this?

Mr. Narayana Murthy has been a huge role model. I have frequently brainstormed with him on many issues. It's interesting to note that just as Biocon pioneered biotechnology in India, Infosys sowed the seeds of India's information technology industry. Companies like Biocon and Infosys have demonstrated how unshakable the power of entrepreneurship and innovation can bring multiple benefits to the country and usher in a better life for millions of Indians.

Today, a large reservoir of entrepreneurial energy in India is waiting to be tapped. It is



(Clockwise from top) Kiran Mazumdar Shaw at IPO listing of Biocon in 2004; the ground-breaking ceremony of Biocon's first office; with her brewing professor Neville Gower; with her colleagues; and a group photo of Biocon staff.

John sold his prime and prized possession - a house in London - and bought out Unilever's stake for \$2 million and thus backed my venture and took a big bet on me and Biocon! He always teased me. He had heard stories of Indian men getting dowry at the time of marriage. But in our case, he walked into our marriage by parting with his lifetime savings to buy the shares back from Unilever!

by investing in breakthrough ideas and embracing entrepreneurship as an economic model of growth that India will be able to unleash the power of innovation to ensure a better life for its billion-plus citizens.

What does John say today about that bet he made?

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6 The rapid growth phase perhaps began after that buy out of the Unilever stake and just as the branded drug boom is going on, patient, and that perhaps marks the modern phase of Biocon is only about 15 years old. Where do you see Biocon in the next 10 years?

My aim is to take Biocon's biopharma business to the next level. We have started focusing on the very exciting and promising field of immuno-oncology. The latest advances in the field of immuno-oncology are in sync with the evolution in the understanding of cancer as an immunological malfunction rather than just a metabolic malfunction. This fascinating insight offers scientists the opportunity to develop therapies that use the patient's own immune system to fight malignant tumours. Thanks to our better understanding of the human immune system, cancer is no longer a death sentence but in many cases, a chronic disease.

Biocon is building an exciting pipeline of fusion antibody molecules with the concept of preferentially delivering immune-modulators

to tumour sites, thereby enhancing efficacy while limiting systemic toxicity!

Besides being a globally recognised oncology company, we are positioning ourselves as a global player in diabiotherapy. Biocon has successfully expanded access to insulin by making it affordable, thus making a huge difference to diabetes management in India and many other emerging markets.

Diabetes has been recognized as a global pandemic and the latest numbers paint a startling picture. Diabetes now affects nearly one in 11 adults globally. With almost half a billion people around the world today affected by diabetes, there is a great need for affordable therapies for managing the disease. As the largest Asian insulin player and the fourth largest producer of insulin in the world, Biocon has the opportunity to make a huge global impact on Diabetes management. We also have an exciting Oral Insulin advancing in development.

What's your bet today - genetics or biostimilars? Why?

When I began my pharmaceutical journey, I had a choice to develop low cost generic pharmaceuticals or complex, capital intensive biopharmaceuticals. I chose the latter and invested in disruptively innovative process engineering that could deliver affordable pricing and make a difference to global healthcare. It led me to make long-term investments in creating 'best-in-class' complex biologics manufacturing capabilities. I leveraged the advantages of cost, scale and knowledge that India offers.

Over time, Biocon successfully developed both novel biologic drugs as well as affordable biostimilars. In doing so, I brought advanced biopharmaceuticals against diabetes and cancer to patients in India and other developing countries at price points that made them affordable and thus accessible.

We are now leveraging our experience in India and emerging markets to take biostimilars to a global patient pool. Biocon leads the way in the development of novel biostimilars and anti-bodies in advanced stages of development or approvals in the developed markets. We are confident that, together with our partners and approvals in the developed markets, we can build a strong global presence in biostimilars to address the huge need for affordable access to these life-saving and life-enhancing biologics.

AFFORDABLE BLOCKBUSTER DRUGS WITH A 'MADE IN INDIA' LABEL THAT CAN CHANGE THE LIVES OF BILLIONS OF PATIENTS AROUND THE WORLD WILL TRULY STAND TESTIMONY TO OUR FORESIGHT. SO, THERE IS NO TIME TO REGRET BECAUSE 'I HAVE PROMISES TO KEEP - AND MILES TO GO BEFORE I SLEEP'

What do you see as the future of biotechnology, especially as it relates to healthcare - genomics and precision, personalized medicine? And what would Biocon's role be in this future?

Biotechnology is already rapidly and disruptively changing the way we medicate and eradicate diseases. Genomics has disrupted the medical world by creating a new breed of life scientists and researchers who look at disease in a very different way than their older peers. It is no longer about treating symptoms but about understanding disease at a cellular and genetic level to deliver personalized diagnostics and therapies.

Technological advancement has brought down the cost of sequencing an entire human genome, thus enabling personalized medicine to lead. Multiplexing genomics with machine diagnostics and big data analytics is now being leveraged at a cellular level, wherein cancer cells are being deciphered and translated into tailor-made treatment regimens.

Today's medical paradigm is rapidly evolving from a "one size fits all" to a customized solution of "the right treatment for the right patient at the right time" with the aim of

minimizing side effects and maximizing positive outcomes. Healthcare tomorrow will have no resemblance to what exists today. Imagine a world where every one of us will have a life-long genome map that will be tracked for mutations that are linked to their disease-causing potential. This can enable early diagnosis and early therapeutic intervention, thereby arresting disease progression and enhancing quality of life.

Biocon has harnessed the potential of biotechnology to increase affordable access to highly complex biopharmaceuticals like Insulins and Antibodies for the benefit of patients the world over. I have always believed that innovation should go hand-in-hand with affordability - it is only when the benefits of research reaches the person on the lowest rung of the economic ladder that it can be considered to deliver true value.

That is why Biocon is working on developing blockbuster drugs that are not about a billion dollars, but about a billion patients who benefit from it.

You are an exemplar of the successful Indian woman, and that is a difficult, complex business. Can you look back and tell us about that journey, how you felt then and how you feel about it now? What, if anything, did you miss or regret most?

I started out with the ambition to be a doctor, but strangely life took me on another path. I believe that perhaps as a biotech researcher and entrepreneur I have been able to touch many more lives.

As a first generation entrepreneur, I have challenged the Western pharmaceutical model of creating monopolistic markets that deliver high margins at low volumes. This is because I have been driven by the belief that the pharmaceutical industry has a humanitarian responsibility to provide affordable access to essential drugs for patients who are in need and to do so with the power of innovation.

I believe with all my heart that the healthcare industry has a special responsibility as we sell essential life-enhancing and life-saving medicines and provide life-giving care. We cannot profit at the cost of patients. We cannot allow this deplorable reality where only the affluent class of people have access to the best-in-class medicines whereas the rest are deprived of medicines due to lack of financial resources.

My vision is for our research programmes to focus on the disruptive nature of bringing transformative change in treatment paradigms. Affordable blockbuster drugs with a 'Made in India' label that can change the lives of billions of patients around the world will truly stand testimony to our foresight. So, there is no time to regret because 'I have promises to keep - and miles to go before I sleep.'

I WAS WONDERING WHY IN INDIA WE DON'T HAVE REPORTAGE-BASED BIOGRAPHS SUCH AS THOSE OF ELON MUSK, STEVE JOBS AND JEFF BEZOS WHEN I JUST SENT OFF A MAIL TO KIRAN ONE EVENING IN JULY 2014. IN 15 MINUTES, I GOT A RESPONSE FROM KIRAN SAYING THAT SHE KNEW THAT I WOULD DO JUSTICE TO THE WORK. THAT'S HOW THIS BOOK STARTED.

— SEEMA SINGH, AUTHOR, MYTHBREAKER.