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Is it curtains for AstraZeneca R&D in Bangalore?

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Is it curtains for AstraZeneca R&D in Bangalore?



Just a month after the dawn of the New Year, AstraZeneca announcing its strategic decision to shut down its 25-year-old, state-of-the-art Avishkar R&D center in Bangalore sent ripples across the lifesciences industry in the country.

For, the 200,000 sq ft facility in Hebbal, on the way to the Bangalore Airport is not just another research center. It is the research center that put Bangalore and India on the global biotech map in the early 1980s. The same way setting up the

Texas instruments office in Bangalore in 1984 spawned the birth of India's Silicon Valley.

The who's who of India's biotech industry have cut their teeth in the AstraZeneca center which was born more than 25 years ago as Astra center. It was born when India opened its doors to the world and set up a corporate research center for the first time since Independence.

The AstraZeneca center has been the training ground for India's budding biotech entrepreneurs. More than half-a-dozen biotech companies have been set up by scientists who learnt the rigors of corporate R&D under the watchful eyes of AstraZeneca research heads.

So, AstraZeneca is not just another biotech research center. It had an iconic status in India's fledgling biotech industry.

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Can such an iconic center just close shop, and allow its prized research facilities be demolished to make way for ultra-luxury apartments?

At the moment, there are controversies abound as to what should be done to AstraZeneca's prestigious R&D center. Should it be abandoned and left alone without any further action? Or offer this coveted space to land sharks for erecting high-rises and commercial establishments?

The 10-acre land housing the R&D center is valued at more than Rs 400 crore. The equipment and other facilities at the campus are worth another Rs 1,000 crore. But it will be an insignificant number in the company's balance which reported revenues of $25.7 billion (Rs 154,200 crore) in 2013.

Perhaps, it can be turned into an incubator for future biotech start-ups?Even if it is, who is going to finance and chart-out a stringent plan of action for the up keep of the facility? Should the government stick its head in at this crucial time and come up with a robust plan for encouraging future biotech R&D at the same center?

It also raises questions as to whether we have enough qualified personnel who can handle the site safely as it is contaminated with harmful biological debris accumulated over a period of time, in and around the R&D site. What will be the consequences if it is not?

The Astra Research Center India (ARCI) in Bangalore was established by Swedish-based pharmaceutical company Astra in 1985. However, in December 1998, UK's multinational pharmaceutical 'Zeneca Group' merged with Astra for a whopping $67 billion, forming today's successful biopharmaceutical giant AstraZeneca. The research center primarily focused on TB and malarial research.

Today, drugs with new and novel modes of action are urgently needed for infectious diseases since infectious pathogens are developing strong resistance to antibiotics that are currently available.

Dr S Anand Kumar, former director, AstraZeneca Research Foundation India, said, "Many R&D based large pharmaceutical companies world over have stopped pursuing drug discovery research for infectious diseases, since the high investment required cannot be recovered. AstraZeneca India's Avishkar R&D center was built and equipped with state-of-the art facilities for conducting drug discovery research for infectious diseases such as TB, which is relevant to India and other developing countries. It is indeed unfortunate that AstraZeneca which was one of the very few companies pursuing drug discovery for infections decided to shut down the activity including its R&D center in India."

An emotional Dr T S Balganesh, a former head of the AstraZeneca R&D center, said it is obviously sad to know about the shutting down of the center.

The research center, in the last three decades created a scientific community, environment for many scientists and offered them an opportunity to horn their entrepreneurial skills and emerge as entrepreneurs.

The center has a good educational ethos for many skilled and talented scientists who were keen to come back to India after spending years on good research and development in various aspects of drug development.

"The center has many milestones and achievements through collaborations in neglected diseases. In my opinion, Indian patients with neglected diseases will be most affected and sufferers with this announcement," Dr Balganesh added.

Without classifying the decision as right or wrong, he felt the company could have looked at other options as well such as GSK's open facility model or Novartis Tropical Research Center, Singapore.

The company could have discussed its decision of shutting down with government agencies a few years ago. The government has been supportive of taking up new ventures.

It could have helped the company, which has been doing excellent work in neglected disease areas, instead of just offering good will gestures. "I personally feel nothing came up from the public sector to cushion the momentum initiated by multinational companies such as Astra Zeneca," Dr Balganesh lamented.

A few in the industry believe that this difficult decision by AstraZeneca was based on its global cost cutting on R&D due to 'challenging times'.

Another distinguished scientist, Dr Janakiraman Ramachandran, who headed and played a significant role in establishing AstraZeneca's global R&D center, and in its discovering and developing novel therapies for neglected diseases like TB and antibiotic resistant infections is also distraught by the closure move.

Dr Ramachandran, who is the current chairman and on the board of directors, Gangagen Biotechnologies, feels that the closure of Avishkar R&D center will leave a big void as the center was addressing significant unmet medical needs in the third world nations.

Opines Dr Kiran Mazumdar-Shaw, CMD, Biocon and chairman of Karnataka government's Vision Group on Biotechnology, "As research at AstraZeneca's Avishkar R&D center was focused on infectious diseases, its closure is obviously a big blow to R&D efforts aimed at developing drugs for diseases like malaria and TB, which are endemic in developing countries like India. Given India's enormous infectious disease burden, such closures pose a serious setback to efforts aimed at developing new drugs for neglected diseases of the developing world."

It is an indisputable fact that AstraZeneca played a crucial role in turning Bangalore in to a teeming biotech innovation hub in the country. Initially, ARCI was under the watchful care of distinguished scientists like Prof. Dr Ramasheshan, Prof. Dr G Padmanabhan and Prof. Dr CNR Rao.

ARCI was initially located in the premises of IISc-Bangalore and then moved to Aranya Bhavan in Malleshwaram, Bangalore.

It is noteworthy that, the second chairman of ARCI, Prof. Sune BergfstrÃ?Â¶m, a Nobel Laureate in Physiology and Medicine, played an instrumental role in bringing prostaglandins to India, aiding maternal health.

The ARCI was inaugurated by the then Prime Minister Mr Rajiv Gandhi. However, the center was moved to the Kirloskar Business Park in 2000, further expanding in to a 10 acre site with dedicated space of 200,000 sq ft for state-of-the-art laboratory facilities to carry advanced biotech research.

This new location gave the R&D center easy access to academic hubs of excellence including National Center for Biological Sciences (NCBS), Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) and the Indian Institute of Science (IISc), University of Agricultural Sciences (UAS), Center for Cellular and Molecular Platforms (C-CAMP), and Indian Veterinary Research Institute (IVRI).

Scientists who worked at AstraZeneca's R&D center also birthed many of the country's successful biotech start-ups including Gangagen (founded by Dr Ramachandran after he retired from Astra), Enzene (founded by Dr Chandrashekar), Aristogene (founded by Dr Sudha Lingappa), Xcyton (founded by Dr B V Ravikumar) and Cellworks (founded by Dr Santanu Datta), to name a few.

Back in the early 80's, when biotechnology was still at a very nascent stage in India, Astra grabbed the attention of many qualified scientists who jauntily relocated to Bangalore to conduct world-class research.

Dr Anand Kumar and Dr Ramachandran were always on the scout to establish connections with local scientists and entrepreneurs to facilitate Astra's collaboration in carrying out relevant biotechnology research.

Dr Sudha Lingappa, director, Aristogene Biosciences, said, "I would like to mention that Aristogene Biosciences took its genesis in erstwhile Bangalore Genei which was founded by Dr P Babu, and was nurtured by Astra Research Center (Avishkar). AstraZeneca's Center at Bangalore has been a source of advanced scientific expertise. The state-of-the-art laboratory facilities were created in 1987 and constantly upgraded as per the targets of the company. Even though a number of multinational companies and some indigenous groups have made inroads into the highly competitive pharma R&D, AstraZeneca has to be credited for its initiative to establish a research center in Bangalore and take a lead in the Indian R&D sector."

Dr Goutam Das, the current COO of industry association, ABLE (Association of Biotechnology-Led Enterprises) was also associated with AstraZeneca for a long time. He later joined Biocon group company, Syngene International and took it to great heights as its first CEO.

Dr Anand Kumar further explained, "We do not know if something like this could be made to happen in a way that is workable to all the stakeholders concerned, especially given the fact that all pharmaceutical companies worldwide are going through tough times, and are constrained for cash and so is the government in India."

"But with a combination of private philanthropy, public good, corporate generosity, community concern and proactive government - who knows what's possible?" he questions.

Now the ultimate question that lies before us is that, is there any way by which this unique facility can be retained and operated for drug discovery and development for infectious diseases?

"One thought is, large philanthropic organizations such as Bill and Melinda Gates Foundation, Wellcome Trust, Sir Dorabji Tata Foundation, Tata Trust or any other national or International bodies, may be persuaded to purchase the facility from AstraZeneca and make it available for a fee to research funding agencies such as TB Consortium, Medicines for Malaria Venture, Drugs for Neglected Diseases, and others, to lease out space and equipment needed by research teams to pursue drug discovery research for infectious diseases," opined Dr Anand Kumar.

He further stated, "Many of these funding agencies lack physical facilities and capabilities of their own for drug discovery research. With a fully equipped state-of the art facility, they may be able to coordinate their research activities more effectively."

However, some industry experts are of the idea that instead of a complete closure of this world-class R&D center, it can be turned into an innovation hub for Bangalore's biotech entrepreneurial ventures, rather than let real estate sharks devour and turn the invaluable land into a luxurious high-rise apartment space.

According to Dr Mazumdar-Shaw, the shutdown will not augur well either for established companies or start-ups in this sector. "At a time when India needs to create more jobs and increase investments in R&D, the shutdown of the Avishkar facility sends out a negative message to scientists and investors in drug research," she added.

In the past, AstraZeneca has created science parks out of its former facilities, Lund in Sweden, for example. On similar lines, the Avishkar facility could be made accessible for both new and established biotech companies who are looking to expand.

Industry experts further believe that the lack of such science parks can be detrimental to the smooth translation of biotech innovation.

Several stakeholders including the Karnataka government's Vision Group on Biotechnology, C-CAMP, NCBS, ABLE and DBT are on the lookout for ways to address this issue.

"It is highly unlikely that the R&D center will be taken up by Indian or other multinational pharma companies. It is indeed unfortunate that AstraZeneca decided to close this excellent R&D Facility which was the largest R&D Center devoted to the discovery and development of therapies for the control of TB and other tropical diseases, which are generally neglected by pharma companies," explained Dr Ramachandran.

Dr Mazumdar-Shaw feels that the Avishkar R&D Center lies in the path of flights and hence the site is unsuitable for high rise constructions.

"However, the working plan should be fool-proof against the usual maladies of nepotism, mediocrity, and political interference of government-run institutions," said Dr Sudha.

A good number of world-class scientists have been trained, which has benefitted academic institutions and has added a good number of scientists to the pool of Indian researchers.

Therefore, its closure would certainly have an impact on the quality of research as well on the quality of scientific human resource. Moreover, start-ups will be deprived of valuable technical support and incubation facilities, which no other R&D center has encouraged.

"There is a feeling that a chunk of startups are closing because of stringent regulations. We believe, it could be because of lack of support in the form of guidance in regulatory requirements, technical, legal, IP and support from government. In our opinion, the historic center should be a model incubation center or an advanced R&D center catering to both academic and Industrial requirements whether this happens by government as such or by industry giants," concludes Dr Sudha.

Closure of many of India's R&D centers by lifesciences companies is attributed to the stringent Indian regulatory protocols and uncertain measures.

"India is fast losing its pride of place as an 'innovation partner' in the world, because of the controversy surrounding clinical trials in the country. In trying to convince the courts of the robustness of the regulatory apparatus governing clinical trials, the health ministry has over-compensated by putting in place a monitoring system that is proving to be a huge deterrent to drug innovation. If the government fails to come up with a rational policy soon, it can have an irretrievable impact on India's ability to partake in new drug development as it will lead to an exodus of innovators from India," commented Dr Kiran.

Some talks have taken place between the state government and AstraZeneca for salvaging the facility.

The central government too may pitch in when an acceptable solution is worked out. Government is keen to get its hands on the biological research facilities within the center.

The facility has a much larger R&D process center which is of great interest to other pharma companies.

The last word is not yet out on the iconic AstraZeneca research center in Bangalore.