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'We must break bottlenecks and forge ahead', says Dr.Brahmachari

12 June 2013 | Views | By Rahul Koul Koul

We must break bottlenecks and forge ahead', says Dr.Brahmachari



We have a great future ahead if we start putting more efforts on data intensive research in drug discovery.As I go down the memory lane of the decade, I can remember the striking development that took place in 2003. It was the launch of a world-class magazine, BioSpectrum. There is no other field in India that has been so well covered and chronicled both in terms of extensive coverage and statistical development as the way CyberMedia does with this industry.

In 2002, biotechnology was just in its nascent stage and was considered to be a small industry. But the success story of vaccine sector and the emergence of companies such as Bharat Biotech and Shantha Biotech changed the course and direction. Also, the success of Biocon has been a major milestone that brought recognition and growth along with stability to the industry. The emergence of bioinformatics as a discipline, genomics as a research area and contract research as an opportunity are the remarkable feats of this industry. All these areas have evolved over the decade.

Although, presently, the biotech industry is close to $5 billion, yet, it cannot be compared to large industries such as petrochemical, automobile and information technology, but the impact is quite significant. The growth of scientific institutions have given fillip to the pharma, agriculture and other areas. In fact, our new national biology laboratories are just 25 years old. It is in the late 80s that the best laboratories came up in life sciences. Be it CSIR, DBT or DAE institutes, all have made significant contributions not only in therapeutics but in generics as well. I think they have paved the way for such an exciting journey. My own experiences at CSIR-Institute of Microbial Technology (CSIR-IMTECH), Chandigarh have been phenomenal. The thrombolytic molecules developed at the institute from being niche to being wide spread and affordable, has been remarkable. As we speak, a novel clot buster in form of clot specific streptokinase is about to undergo the final stage clinical trials. So, we have crossed a major milestone at CSIR.

The affordability in healthcare has basically come from the success in the chemical industry and that has been now extended to the vaccines. The challenge remains that, how will we get new molecules developed and for that various steps have to be taken including the leveraging of existing knowledge treasure on the available drugs.

The disappointment however remains with the education sector where we have large number of students with sky-high expectations and yet failing to get into right spaces. The absorption capacity has not met the expectations of those who were looking for job opportunities. The industrial consumption of manpower has not grown commensurate to the development of human resources. Specific verticals such as bioinformatics are yet to be tapped fully. The potential growth in informatics has not been exploited to the level that should have been by the large industries. Except Tata Consultancy Services in IT industry, no other company has utilized its full potential.

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Our weakness is that we have not been able to do the high level of product development. It is still an under-developed and under-utilized area of the biotech sector. However, there is a lot of scope for the growth. With the availability of national knowledge network, communicating and computing capabilities have enhanced tremendously. With the huge force to reckon with, we can take a global lead in the sector. The progress of the program such as OSDD has served as an example where we can take lead in new discoveries. Unlike molecular biology that took 20 years to reach to the level of product development, the genomics has the availability of cutting-edge technologies and we can certainly achieve lot more than we can think today. With these technologies in our kitty, and along with efficient and capable manpower, we can do large scale discoveries. The connection of genomics with medicine has happened rapidly for the first time. This is the area where I have huge expectations and see a future for the sector.

Actually, India can beat the best of the world in the field of predictive medicine if we start making research headway in the right direction. So far the efforts have been lacking. Industry must come out of its conventional mode of thinking and researching. The use of latest authenticated technologies is a must and above all the benefit to the masses must be given due consideration whenever the research is initiated. As a person, when I look at a decade back, the full scale exploitation of genomics was a dream along with an institution that could bring the change.

Ten years down the lane, it has become a reality. So I am a satisfied person in that regard. What is now required is the focus on novel emerging areas. We should start now with extensive thrust on the areas such as biosensors and synthetic biology. India has to be a leader of the future. And I have no doubt it will.