

## Entrepreneurship based education is a must

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Biotechnology has become one of the fastest growing knowledge-based sectors in India and has been off late considered as a powerful enabling technology that can revolutionize agriculture, healthcare, industrial processing and environmental sustainability. Wide range of sectors such as development and design of uniquely improved varieties of crops, new pharmaceutical products, plethora of chemicals, cosmetics, fertilizers, growth enhancers, processed foods, healthcare aids and environment-related substances are getting benefited through biotech interventions. Development of therapeutic biotech drugs and vaccines, clubbed as biopharmaceuticals, is one of the fastest growing sectors in India for the past few years.

Biotech acquired special status almost three decades ago with the inception of the National Biotechnology Development Board (NBDB) in 1982 by the Government of India with a mandate of human resource development as biotechnology being very specialized domain and a knowledge-intensive field; development of infrastructure facilities; and support to R&D. Today, most of the universities, agricultural universities and even the Indian Institutes of Technology have introduced biotech courses across the country, including a large number of private institutions. The latter are virtually mushrooming and as a result the education sector has grown not-in-sync with the growth of biotech-based industries and the R&D environment. The large-scale production of UG and PG graduates in biotechnology has raised concerns among industry players on the quality of manpower produced by a large number of government and private institutions who are not employable due to lack of proper technical skills and knowledge.

The seriousness of the Government of India in enabling biotech conducive environment has been reflected with the establishment of Biotechnology Industry Research Assistance Council (BIRAC), a not-for-profit company" of Government of India, to serve as a single window for the emerging biotech industries. The BIRAC envisions to stimulate, foster and enhance the strategic research and innovation capabilities of the Indian biotech industry to make India globally competitive in biotech innovation and entrepreneurship, for creation of affordable products addressing the needs of the largest section of society. These are noteworthy initiatives and developments to reinforce positive intentions towards biotech as a sunrise industry in India.

The solution lies in setting up mutually benefitting collaborations between academic institutions well equipped with biotech infrastructure and industries seriously looking for academic partners so as not only to provide an impetus to growth of education and industry sectors in India, but also to create entrepreneurial avenues for the youth. The biotech education curricula should include or rather emphasize on courses, project works, exposure to national and international industry profiles, and information on venture capitalists so as to inculcate entrepreneurial zeal among graduates.