

New initiatives on anvil for inclusive growth

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In the last 10 years or so there have been several new initiations, at the policy level, by the Department of Biotechnology that have changed the land-scape of biosciences in general, and biotechnology in particular. In all areas including man-power development, basic research, industry-academia partnership, recognizing and nurturing exceptional talent through high level funding, there have been remarkable special efforts. Of those, however some stand out more.

For example, the DBT alliance with one of the most reputable funding agency like the Wellcome Trust to support highly talented individuals has been an outstanding achievement. In this scheme, the scientific talent is being recognized at four different levels; first at the beginner of a scientific career (fresh PhD); second, at the intermediate level (after post-doctoral experiences); third at the senior level and finally highly unusual scheme which recognized leadership ability of scientists along with outstanding scientific achievements and encouraged them to locate or relocate so as to provide scientific leadership in different locations.

The results of this scheme are ready to see though the full impact of it will be seen in the coming 5-10 years.

The other notable change at the policy level deals with the idea of bringing academia and industry closer to each other, and also engages young entrepreneurs to set up new businesses in the broad area of biotechnology including agricultural sciences through the two schemes of Small Business Innovation Research Initiative (SBIRI) and Biotechnology Industry Research Assistance Council (BIRAC) of the DBT.

The Department of Biotechnology (DBT) launched SBIRI scheme in 2005-06 for supporting small and medium size enterprises with a grant or loan to help early phase of product development.

Companies with up to 1000 employees are eligible under this scheme and the scheme will support pre-proof-of-concept, early stage innovative research and provide mentorship and problem solving support in addition to the grant/soft loan.

The main aims and objectives of this scheme are:

- â—? Strengthen existing private industrial units where product development is based on in-house innovative R&D;
- â—? Create opportunities for starting new technology-based or knowledge-based businesses in biotechnology by science entrepreneurs;
- â—? Stimulate technological innovation and product commercialization;
- â—? Use private industries as a source of innovation and enhance greater public-private partnerships; and
- â—? Increase product development and commercialization in the public-private sector derived from government funded R&D projects.

Biotechnology Industry Partnership Program (BIPP) scheme through BIRAC, a not-for-profit company set up by Department of Biotechnology to promote and nurture innovation research in biotech enterprises specially start-ups and SMEs. Major thrust of the program is towards funding technologies which address a major national problem and/or involves high level of innovation.

The proposals spanning across the spectrum of pre-proof-of-concept to validation of established technologies are considered for support in the form of grant and/or loan.

Key features of the program include:

- * Large, medium, small scale companies as well as start-ups on cost sharing basis
- * High risk, discovery linked innovation
- * Accelerated technology development
- * Evaluation and validation of biotech products
- * Indigenous discovery, innovation and technology to products
- * Products of national relevance or public benefit
- * Support is also available for infrastructure/facility where such a facility leads to R&D capacity building or is required for scale up of an innovative product/process of national importance developed through company's in-house research and development.
- * Facility proposed could be in the area of agriculture, healthcare, biosimilars, industrial processes, energy, bioinformatics, genomics and other relevant areas in biotechnology.

A large number of R&D awards have been made, and while some successes are already there to be seen, the full effect of these initiatives will mature in time to come.

These schemes have not only encouraged entrepreneur or companies to approach the Government of India for funding, but more importantly has also reduced the gap in understanding each other.

There are many other initiatives as recognition and funding of Centre of Excellencies in different research institutions, including the Indian universities, which has helped already successful scientists to further focus on their research.

Several schemes for recognizing and attracting scientific talent amongst Indian scientists working abroad including some special scheme for women scientists have also taken firm roots within the policy framework of the Department of Biotechnology.

However, obviously to see any big changes on account of these major policy decisions, one will have to be patient. What will be needed in years to come is to seriously review all the ongoing efforts and critically analyze their success or lack of it, and wherever necessary schemes/policies can be revisited.