

Biotechnology Industry Partnership Programme

Lending A Hand



Suraksha S. Diwan



Shilpy Kochhar



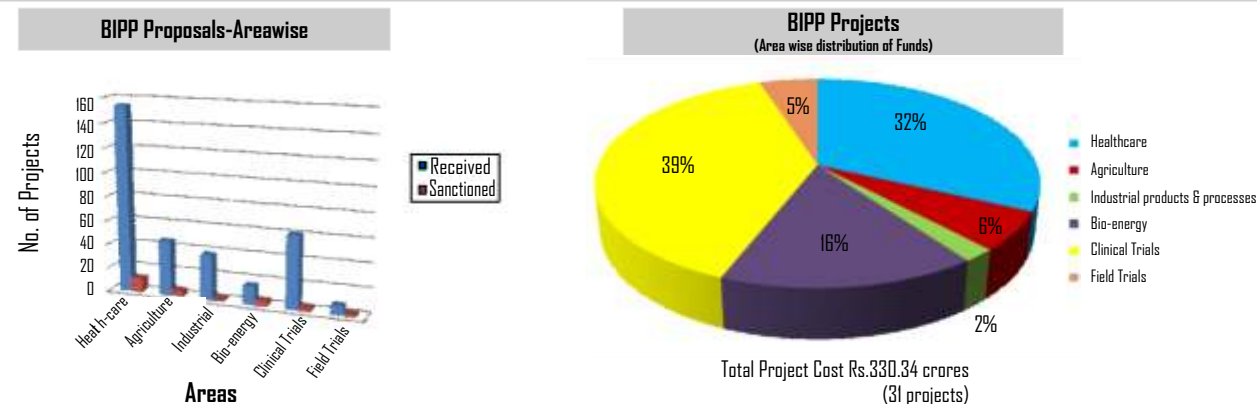
Renu Swarup

B iotechnology Industry Partnership Programme (BIPP) is designed to support discovery and innovation in the Biotech industry. Approved as an Advanced Technology Scheme in November, 2008, BIPP promotes path-breaking research in cutting edge futuristic technologies on a cost sharing basis wherein DBT provides 30-50% of R&D costs as viability gap funding. The focus of BIPP is on technologies that have a potential to make Indian biotech industry more competitive in a global setting.

The USP of BIPP is in its singular pursuit to support "breakthrough research" which can lead to development of products and/or process/technology that can be commercialized and creates IP for the project proponents.

BIPP has a streamlined process wherein as a first step, ideas for cutting edge technologies of national/ social relevance and possible solutions are generated in consultation with senior experts, academia and industry. Proposals are invited for work in the priority areas so identified. In order to enhance process transparency and efficiency, all transactions in BIPP from proposal submission to fund release & recovery are online. This is in addition to standardised processes for evaluation of proposals which includes in-house analysis, IP analysis, due diligence, signing of agreement and release of funds.

Biotechnology Industry Partnership Programme



Suraksha S. Diwan^{Ph.D.} and Renu Swarup^{Ph.D.} are with the Department of Biotechnology, Government of India, New Delhi. Shilpy Kochhar^{Ph.D.} is Assistant Manager, Biotech Consortium India Limited, New Delhi. Email: ssdiwan.dbt@nic.in | swarup@dbt.nic.in | bcildelhi@vsnl.com

Biotechnology Industry Partnership Programme Categories

Category-I	Fulfilling Major Unmet National Technology Needs (Areas with high national and social relevance but uncertain market)	Category-III	Evaluation & Validation of Already Existing Products of High National Importance (For Phase-I, II and III clinical trials of biotechnology based research efforts and for limited and large scale field trials in the case of agriculture products)
Category-II	Increasing Global Competitiveness of Indian Industry (Complete development of high risk, accelerated technology/process leading to high value IP)	Category-IV	Shared Major Facilities Around Technology Platforms (Management in the private hands, access to private sector at commercial rates and to the SME sector and public sector at preferred rates)

Biotechnology Industry Research Assistance Programme

National Biotechnology Development Strategy envisaged investing upto 30% of DBT's budget in Public-Private Partnership (PPP) Schemes by the end of the 11th Five Year Plan. The purpose is to promote innovation, pre-proof-of-concept research, accelerated technology and product development in biotechnology

In order to achieve the above goal and meet wider social needs, it was proposed to establish Biotechnology Industry Research Assistance Council (BIRAC), as an autonomous, dynamic, flexible and futuristic organization, to provide technical, financial and other required innovation services to promote growth of biotech industry, particularly, start-ups and SMEs. To kick start activities of BIRAC, a pilot Biotechnology Industry Research & Development Assistance Program (BIRAP) was established in November 2008 in partnership with Association of Biotech Led Enterprises and Biotechnology Consortium India Limited. The specific mandate of BIRAP is to initiate, support and facilitate PPP programs on a pilot scale.

Technology Transfer and Acquisition

BIRAP has been facilitating efforts to explore the possibilities of technology transfer and acquisition. Successes in this area include

Implants and Devices for Neonatal care; and transfer of technology for Bio-fortification of Banana (from Univ. of Queensland, Australia).

Promoting Technology Development

Stanford-India Biodesign (SIB) Programme
BIRAP has partnered with the DBT-STANFORD Bio-Design Programme and is providing necessary facilitation for validation and commercialization of new low cost medical technologies.

Secondary Agriculture

A pilot study on secondary agriculture focusing on Punjab has been initiated for which proposals have been invited.

IP Facilitation and Management

Given the urgent need to provide IP facilitation to SME's and start up in terms of patents and prior art search BIRAP has undertaken a detailed IP analysis of all its industry related R&D programs. A BIRAP-BCIL IP Cell has been created for this purpose which is now being strengthened to provide relevant services to the academia and industry as under:

- FTO searches for industry projects
- Landscape analysis and technology mapping
- Provide advisory services on issues like criteria for patentability, IP strategy etc.
- Other Support Services for Promoting Industry Research

Policy & Analysis Cell

BIRAP's Policy and Analysis Cell (PAC) reviews latest market reports

and analysis in the priority areas of industry research to facilitate proposal evaluation and decision making. PAC has already completed detailed reviews in several priority areas A database of resource persons and experts has also been developed to meet future needs.

Legal and Contracts Cell

Since all the activities are related to Industry research, technology transfer and licensing, the legal, IP and technology transfer contracts and agreements are of special importance. This cell is geared up to provide the required services to the industry stakeholders as per their needs.

BIRAP Discussion Series

Agribiotech sector

BIRAP is preparing a Contract Research Scheme for Agribiotech academia-industry interface to take the academic research leads forward for validation by the industry.

Nanotoxicity

BIRAP, in consultation with ICMR, DST, CSIR, ICAR and other Institutes and Universities, is preparing 'Guidelines for Safe and effective handling of Nanomaterials'.

Capacity Building Programmes

A series of capacity building initiatives have been organized under the aegis of BIRAP on a wide variety of issues including: Biotech Licensing, Writing an Effective Grant Proposal and IP Management. ■

Biotech News requested a few past recipients of BIPP support for their views on the nature of BIPP support and its efficacy.



Panacea Biotech Ltd., New Delhi

V.K. Vinayak, Chief Scientific Officer

Panacea Biotech has got BIPP support as a loan to develop H1N1 Influenza Vaccine. To handle a highly contagious pathogen like H1N1 virus having pandemic dimensions, dedicated high containment facilities like BSL3 or BSL2 (enhanced) and identical (BSL3 or BSL2 enhanced) facility at GMP manufacturing site are essential to conduct R&D. This entails large investments which are highly risky, given the tendency of the Influenza virus to undergo frequent genetic shift and drift. This makes design and development of new influenza vaccine, that too within a very short span of time a very challenging task for the industry/manufacturers.

Support under BIPP scheme came very handy to set up appropriate facilities and initiate processes to design and develop effective H1N1 vaccine to control the pandemic. BIPP support has de-risked the project which ultimately helped the company to a) attract more investments, b) create and built capacity, & c) lower the risks. Moreover, mechanisms like BIPP send This has send a very strong signal that close collaboration between industry and Government agencies in drug development is eminently possible. BIPP is a forward looking initiative which projects DBT's vision to stimulate R&D activities in the to enable innovation for the benefit of community at large.



TCG Life Sciences Ltd., Kolkata

Sourav Basu, Associate Vice President

TCGLS is a Contract Research Organization working in the area of preclinical discovery services. We have been supported on a project entitled "Process for Asymmetric Synthesis of Hexahydrobenzo-phenanthrene Dopamine DI Agonists" under the BIPP scheme. We have been awarded a one year grant to make a preliminary proof of concept on those ideas. The reviewers were critical in terms of science but supportive during the whole presentation process.

This created a unique opportunity for a team of scientists working in our company to work on some of their original ideas and make contribution in terms of science. We are happy to mention that we have made good progress and made several of our hypothesis work in the lab and achieved the end goal of reaching the final compounds. This would not have been possible without the support that came from BIPP. From administrative angle BIPP is proactive. We receive alerts for submission of reports on a proactive basis. From online proposal submission to release of funds all happened quite swiftly. TCGLS staff also benefitted from other capacity building initiatives organised under BIPP like the IPR workshop at Kolkata, which helped the participants to enhance knowledge and develop new perspectives.



Richcore Lifesciences Pvt. Ltd., Bangalore

Swati Sucharita Dash, Manager (R&D)

We have secured BIPP support for the project titled "Enhancement of ethanol yield from molasses fermentation by adding a specific enzyme to convert an unfermentable sugar to a fermentable sugar". The aim of this project is to demonstrate significant improvement in ethanol yield from molasses fermentation by the addition of specific enzymes that convert the unfermentable sugars, constituting upto 5% of dry solids in molasses, to more readily fermentable form.

The entire process of screening, evaluation and funding was very well organized and we were suitably guided at each step, right from proposal submission to post sanction documentation and financial matters. The milestone completion reports are scrutinized by technical and financial experts and their suggestions and comments have been of significant help in achieving the goals set for each milestone. The project monitoring committee is very constructive easily approachable. The BIPP scheme is indeed a great motivation for industries to work towards socially important projects.



Metahelix Life Sciences Pvt. Ltd., Bangalore

S. Mukundan, Senior Scientist

Metahelix has been supported under the BIPP scheme for one of its biotech trait development programs - Bt Rice. The project aims to achieve identification of two most efficacious events against rice yellow stem borer, an insect that could cause upto 60% damage to rice yields. The process of grant application, review and release of funds has been very simple and rapid. The experts, while being critical, have also contributed by their suggestions for making the programme more effective. The in-depth intellectual property analysis by the reviewers has also helped Metahelix to further analyze and protect the intellectual property created in the project. The support of the DBT under the BIPP programme is timely, encouraging and very useful.



Association of Biotechnology Led Enterprises, Bangalore

Satya Prakash Dash, Chief Operating Officer

Early stage R&D is associated with significant risk as many a times they are either in conceptual stage, or do not have a demonstrable prototype and their future market performance is difficult to predict. Given this milieu, investors tend to shy away from funding such projects as several institutional investors tend to have a risk-averse nature of funding and even Venture Capitalists often estimate the risk of funding early stage development and research as too high. Furthermore, fields such as biotechnology have long gestation periods that do not conform to typical VC based funding schemes. This leads to severe funding gaps that have forced several early stage technologies to perish.

Generally speaking, Indian biotechnology industry considers the BIPP scheme as a promising initiative for reducing inherent funding gaps in early stage development and research and especially for SMEs. BIPP scheme helps companies to validate their products and benchmark them to international standards thereby enhancing the prospects of subsequent commercial scale up plans. An important spillover effect of the BIPP grant has been its role in substantiating corporate decisions, at the board level, to venture into new technology businesses. While the overall reaction to the BIPP scheme has been very positive, some feel that BIPP support should be in the form of a grant, rather than a grant cum loan arrangement as it is at present.



Bigtec Private Limited, Bangalore

Chandrasekhar B. Nair, Director

We approached DBT for funding the validation of our micro PCR device under the BIPP scheme. What struck me about this scheme was the possibility of getting funded for validation of a technology that we were able to successfully demonstrate. The process is amongst the most rigorous and efficient that I have encountered. This augurs well for the industry where delays in getting a clear picture of the status or in funding could lead to incalculable opportunity costs. We are happy with our experience with BIPP and believe that this kind of support is critical to fostering an environment of product innovation in India.



Torrent Pharmaceuticals Ltd., Gandhinagar, Gujarat

Vijay Chauthiwala, Vice President

Torrent Pharmaceuticals Ltd. interfaced with the BIPP scheme was in the context of Phase-II clinical trials of NCE, a drug discovered by TPL for treatment of diabetes associated heart failure. While the process of evaluation was in line with highest professional standards, the suggestions given by technical experts were also extremely useful. DBT and BCIL officials showed enough flexibility to accommodate our concerns regarding safeguarding intellectual property, confidentiality and uncertainties involved in the progress of clinical trials (for which the BIPP funding was made available). The disbursement of funds was prompt and the follow up of progress of the project was carried out in a professional manner. Overall, I would say that BIPP is an industry friendly scheme with high standards of eligibility criteria and is managed in a professional manner.