

**Government of Himachal Pradesh  
Department of Env., Sc. & Technology**

No. STE-A(1)-2/2008-I

Dated : Shimla-2, 20.12.2014

**NOTIFICATION**

The Governor, Himachal Pradesh is pleased to formulate the Bio Technology Policy – 2014 in the following manner:-

**BIO TECHNOLOGY POLICY-2014**

**1 Himachal Pradesh towards harnessing the benefits of Biotechnology**

Biotechnology is a fast developing field with wide applications for all human beings. Biotechnology is formally defined as “the application of science and technology to living organisms as well as parts, products and models thereof, to alter living or non-living materials for the production of knowledge, goods and services. It involves manipulating and modifying organisms, often at the molecular level, to create new and practical applications for agriculture, medicine and industry.”

Himachal Pradesh has wide scope for developing various types of BT based industries using raw material base of fruits, vegetables, high value cash crops and other naturally growing herbal plants. These industries can be in various sectors such as, bio-pharmaceuticals, phyto-chemicals, bio-prospecting, fermentation, post-harvest processing, bio-processing, pharmaceuticals, biochemical, genetically engineered micro-organisms, enzyme production, environment protection and animal husbandry etc. There is also immense scope of application of biotechnology in agriculture and horticulture sectors in Himachal

**2 Strengths of HP to Support Biotechnology based Industries**

Himachal Pradesh is an ideal destination to invest in biotechnology based industries because of the following advantages:

**Biodiversity:** The State is endowed with rich plant, animal and microbial biodiversity. There are many rare plants, particularly in the upper reaches of Himalayas, which have immense potential for use in the pharmaceutical industry.

**Eco-diversity:** The State supports varied ecological conditions. Depending upon the eco-geographical conditions, different flora and fauna predominates in different areas.

**Pollution-free environment:** Because of low population density and thick vegetative cover, the State is free from the pollution.

**Mild climate:** Unlike the neighbouring plains, the climate of the State remains mild for most parts of the year. This is advantageous for those industries, which require controlled environment, especially cooling during summer months.

**Availability of industrial land, water and electricity:** The State has land for industries and enough and cheap electricity, available throughout the year. Water, mostly from the natural perennial sources fed by snow melting is in abundance.

**Excellent law and order situation:** Himachal Pradesh is a peaceful State with virtually no law and order problem.

**Pro-active Government facilitation:** The State Government is pro active in promoting BT enterprises in the State by providing quick facilitation for starting the units.

### **3 Mission Statement**

To convert Himachal Pradesh into a prosperous Himalayan Biobusiness Hub with Biotechnology as one of the engines of growth through scientific and technological empowerment of human resource for enhancing efficiency, productivity, cost effective products, processes and technologies.

### **4 Vision**

Promotion of Biotechnology through its application in agriculture, animal husbandry, horticulture, medicine, environment, biodiversity conservation and utilization and bio-industrial development in the State.

### **5 Objectives**

- To make Himachal a preferred and globally competitive destination for development of BT products, processes and services.
- To upgrade infrastructural support to R&D and Educational Institutions to generate highly skilled human resource in biotechnology.
- To support R&D in potential areas of biotechnology, including agriculture, horticulture, animal husbandry, human health, environment and industry.
- To conserve and commercially exploit bio-resources of the State for sustainable development.
- To create awareness about the investment opportunities in biotechnology, genomics, bioinformatics, biofuels, contract research, etc. to entrepreneurs and promote Biotechnology industrial investment in the State.
- To provide suitable Institutional framework to achieve the objectives.

### **6 Strategies**

- Scientific and technological empowerment of human resource for enhancing efficiency, productivity, cost effective products, processes and technologies
- Identification of areas for sustainably harnessing the rich bioresource available in the State.
- Ensure an effective scientific base and make strategic investments in R&D to support biotechnology innovation and economic development.
- Patenting of research findings using effective patenting regimes.
- Supporting infrastructure for up scaling the research for commercial production.
- Outline a number of incentives for setting up of enterprises based on local resources and commercialization of research base.
- Promotion of industries for manufacture of end products based on bioresources.

- Conservation of bioresources of the State.

## **7 Institutional Framework to Achieve the Objectives**

The Department of Environment, Science & Technology will be the Nodal Department in the State that will deal with matters concerning biotechnology. The Department will promote appropriate research in different sectors, lay more emphasis on fields like bioresource utilization, conservation and industrial promotion that are likely to create employment and will maintain networking between companies, research centres and institutions.

## **8 Regulatory Mechanism**

The regulatory mechanism in Biotechnology shall be in line with that of the Acts and Rules as notified by the Central Government under Environment Protection Act, 1986 under Rule for Manufacture, Use, Import, Export and Storage of Hazardous Micro-Organisms, Genetically Engineered Organisms or Cells Rules, 1989 for GMOs and product thereof. These Rules shall be executed by the Department of Environment, Science and Technology in the State.

Beside this, the Department will:

- Link the policy with the existing policies of the line Departments such as Organic Farming Policy of Agriculture Department and Technical Education Policy of Technical Education Department.
- Support R&D Institutions/Universities by providing funds through national and international funding.
- Generate data on status of biotechnology in the State.
- Establish liaison among R&D Institutions/Universities, Industry, farming community and NGOs.
- Help in establishing 'Biotechnology Parks' for promoting biotechnology based industry and R&D Centers in the State.
- Help in managing intellectual property and patenting issues related to Biotechnology.

## **9 Area of Operation**

The Biotechnology Policy will be operational in the State of Himachal Pradesh.

## **10 Developing Biotechnology Industry**

Development of Biotechnology infrastructure for BT Industry in the State will be facilitated by the Industries Department. The State Government, through collaborative partnerships and provisions of facilities, proposes to encourage and facilitate the private sector, in developing necessary Biotechnology industrial infrastructure such as Biotechnology Parks and other supporting infrastructure for research, training, testing, accreditation, etc.

State's varied regional characteristics such as geographic location; agro-climatic conditions, distribution of industries, academic institutes, research centre etc. provide comparative advantage to particular biotech sector. In view of such comparative advantages the State Government proposes to encourage the development of dedicated clusters. in the following area:

### 10.1 Establishment of Biotechnology Parks

The State is already in the process of setting up a Biotechnology Park at Aduwal, Teh. Nalagarh, Dist. Solan. It is proposed to setup Biotechnology Parks/ BT Industrial Cluster in Himachal Pradesh in association with the private sector to boost biotechnology based ventures. Biotechnology based and other auxiliary industries will be located in these Parks. It is proposed to locate these Parks on the Solan and Sirmour districts.

### 11 Supporting R&D Infrastructure

R&D activities shall be supported by the Government by part or full funding of Himachal Pradesh specific biotechnology research.

### 12 Supporting Human Resource Development

Human Resource Development in Biotechnology sector shall be supported by enhancing course (curriculum) development; special HRD programmes; support to BT students and faculty; networking of BT institutions; support for invited talks and experience sharing mechanisms.

### 13 Bioresource Conservation

Support institutions engaged in conservation of bioresource and its sustainable utilization in manufacturing sector. Coordinate and support the R&D Institutions to create gene banks of high value bioresource of the State besides promoting scientific cultivation of endangered plants having great commercial importance.

### 14 Biotechnology Task Force

A Task Force has already been constituted to advise the State Government on making biotechnology related policies and implementing them. The Task Force will also formulate norms for setting up biotechnology based industry.

By order

Tarun Shridhar  
Addl. Chief Secretary (Env., Sc.& Tech.) to the  
Government of Himachal Pradesh.

Endsts. No. STE-A(1)-2/2008-I

-Dated : Shimla-2, 20.12.2014

Copy forwarded for information and necessary action to:

1. The Secretary to the Governor, Himachal Pradesh, Shimla-2.
2. The SPS/PS to the Chief Minister/Ministers/CPSs, H.P. Shimla-2.
3. The Private Secretary to the Chief Secretary to the Govt. of H.P.
4. All the Administrative Secretaries to the Government of Himachal Pradesh.
5. All the Deputy Commissioners in HP.
6. All Heads of Departments in H.P.
7. The Member, Secretary, HP State Pollution Control Board, Shimla-9
8. The Member, Secretary, State Council for Science & Technology, HP, Shimla-9.
9. The Controller, P & S, HP Govt. Press, Shimla-3 for publishing in Rajpatra.

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