



BIO E3 : SCIENCE & TECHNOLOGY

NEWS : *How can biotechnology be harnessed for economic development?*

WHAT'S IN THE NEWS?

The policy seeks to achieve this by harnessing the power of biotechnology, and developing new manufacturing methods that replicate, or mimic, processes found in natural biological systems.

BioE3 Policy and Biotechnology in India

- BioE3 (Biotechnology for Economy, Environment, and Employment) Policy:**
 - Aims to establish biomanufacturing hubs across India.
 - Focus areas: bio-based chemicals and enzymes, functional foods, smart proteins, precision biotherapeutics, climate-resilient agriculture, carbon capture and utilization, futuristic marine and space research.
 - Supports India's initiatives for a *Net Zero* carbon economy and the *Lifestyle for Environment* program, promoting green growth and circular bioeconomy.
- Biotechnology in India:**
 - Segments: Biopharmaceuticals (62%), BioAgriculture (13%), BioIndustry (15%), BioIT & BioServices (10%).
 - Valued at \$93.1 billion in 2022, projected to reach \$300 billion by 2030.
 - India ranks 3rd in Asia-Pacific and is among the Top-12 biotechnology destinations globally.
- Potential of Biotechnology in India:**
 - Leveraging vast biodiversity and bioresources, especially in the Himalayas.
 - A large, young, and skilled workforce, with 47% of the population under 25.
 - Contributions across health, medicine, agriculture, industry, and bioinformatics.
- Government Initiatives:**
 - Programs like *Startup India* and *Make in India* aim to develop India as a biotechnology hub.
 - National Biopharma Mission supports over 150 organizations and 30 MSMEs.
 - FDI Policy: 100% FDI for greenfield pharma and up to 74% under automatic route for brownfield pharma.
- Way Ahead:**
 - BioE3 Policy to promote a sustainable future, focusing on green growth and a circular bioeconomy, aligning with India's *Viksit Bharat* vision.

Source : <https://indianexpress.com/article/explained/harnessing-biotechnology-for-economic-development-9548862/>



The policy's scope is broad and ambitious, encompassing several strategic sectors:

BioE3 Policy Targets Strategic Sectors for Sustainable Growth

