

Department of Biotechnology

1. Industrial and Entrepreneurship Development (CS)

FINANCIAL OUTLAY (Rs in Cr)	OUTPUTS 2022-23				OUTCOMES 2022-23		
	2022-23	Output	Indicators	Targets 2022-23	Outcome	Indicators	Targets 2022-23
276	1.	Promoting biotechnology park for the development of biotech industry in the country	1.1 No. of new Biotech Park established in the current year	2	1. Enhancement in the innovation and entrepreneurship in the biotech sector, to create a knowledge translation ecosystem and to promote and support public private partnership innovation programs	1.1 No. of patents filed/granted	62
			1.2 No. of beneficiaries of the incubators	35		1.2 No. of products/technology developed/commercialized	91
	2.	To promote linkages between universities, research institutions and industries	2.1 No. of existing Bio-clusters supported	4		1.3 No. of beneficiaries utilizing the resources established in the cluster	798
			2.2 No. of new Bio-clusters set up	6		1.4 No. of manpower supported/trained	260
			2.3 No. of startups/Entrepreneurs supported and Industry Academia linkages established	104		1.5 No. of Entrepreneurs, Startups/SMEs/Industry supported	850
			2.4 No. of new facilities developed	9		1.6 No. of startups getting follow on funding	32
	3.	To promote and support public private partnership innovation programs	3.1 No. of entrepreneur, start-ups supported in the current year	850			
			3.2 No. of bio-incubators supported in the	70			

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	2022-23	Output	Indicators	Targets 2022-23	Outcome	Indicators	Targets 2022-23
			current year				
		3.3	No. of Small Business Innovation Research Initiative (SBIRI) supported in the current year	54			
		3.4	No. of Biotechnology Ignition Grant (BIG) grantees supported in the current year	300			
		3.5	No. of Biotechnology Industry Partnership Programme (BIPP) projects supported in the current year	45			
		3.6	No. of Contract Research and Service (CRS) projects supported in the current year	10			
	4.	Moving technologies from Lab to commercial scale: Setting up of technology clusters	4.1	No. of M-Zones established	1		
			4.2	No. of TPropellers established	2		

1. Biotechnology Research and Development (CS)

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	2022-23	Output	Indicators	Targets 2022-23	Outcome	Indicators	Targets 2022-23	
1,315	1. To promote the research and development.	1.1	No. of Ongoing projects Supported.	2,099	1. Development in research and innovation in the biotechnology sector.	1.1	No. of manpower trained/benefitted in the current year	20,960
		1.2	No. of CoE supported	19		1.2	No. of Women beneficiaries in the DBT funded project (PI/Co-PI)	1,198
		1.3	No. of Scientists supported PI/CoPI	4,596		1.3	No. of Publications	3,799
		1.4	No. of research personnel supported (JRF/SRF/RA)	5,998		1.4	No. of products or technologies developed/transferred/commercialized (including software and databases)	119
		1.5	No. of institutes supported	997		1.5	No. of patents filed/granted/commercialized in current year	83
		1.6	No. of workshops/symposia/Brainstorming meetings/trainings organized in the DBT funded projects	197				
		1.7	No. of new facilities established	32				
		1.8	No. of new network/mission programme supported	51				
		1.9	No. of new projects supported	598				
a. Knowledge Generation & Discovery Research, New Tools and Technologies								

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	2022-23	Output	Indicators	Targets 2022-23	Outcome	Indicators	Targets 2022-23
	1. Basic Research in Modern Biology, Biosystems & Bioprocess Engineering, Nano-Biotechnology, Genetic Engineering & Technologies and Bioinformatics	1.1	Databases/software developed	12	1. Basic Research in Modern Biology, Biosystems & Bioprocess Engineering, Nano-Biotechnology, Genetic Engineering & Technologies and Bioinformatics: Enhanced research and innovation	1.1. New Methods/assays/kits developed or validated/improved over existing ones	4
		1.2	Bioinformatics centers supported	29		1.2. Genome Edited Events/Model Organisms/Cellular Systems generated	5
						1.3. Development of nanotized products/nanotization of existing products with enhanced efficiency	4
						1.4. Elucidation of biological mechanisms	4
	b. Medical Biotechnology: Frontier research & innovation in Modern Biology for Healthcare						
	1. Affordable Healthcare (Biopharma products and Anti-microbial resistance)	1.1	No. of Biobanks & Bio-repositories supported	15	1. Affordable Healthcare (Biopharma products and Anti-microbial resistance)	1.1. No. of vaccine candidates and diagnostic kits/medical devices developed	2
	2. Affordable Healthcare (Genomics)	2.1.	Microbiome Profiling of a subset population	3,394	2. Affordable Healthcare (Genomics)	2.1 Development of database of micro biome data and also database for Genetic variants	1
		2.2.	No. of genomes sequenced	3,333			

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	3. Affordable Healthcare (Rare and Genetic Disorders)	3.1. No. of Nidan Kendras Established/supported	15	3. Affordable Healthcare (Rare and Genetic Disorders)	3.1. Screening of newborns for Genetic Diseases (in Aspirational Districts) under the UMMID Initiative	1,05,000	
					3.2. Screening of pregnant mothers for Genetic Diseases (in Aspirational Districts) under the UMMID Initiative	2,10,000	
	c. Bio resources, Clean Energy and Environmental Biotechnology						
					1. Capacity building and scientific advancements	1.1. Development and demonstration of algal biofuel at pilot scale, scale up of cellulytic enzyme and testing at 2G ethanol pilot plant	1
						1.2. Scale up of Clean technologies for treatment of municipal solid waste (biomethanation) and sewage (cavitation and algal photobioreactor, constructed wet land	3
	d. Agriculture biotechnology and allied areas: Support R&D Scientific advancements						
	1. Agriculture biotechnology			2	1. Gene Editing (Nutritionally	1.1 No. of gene edited lines	5

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	and allied areas: Support R&D Scientific advancement	1.1 No. of Facilities (Speed Breeding & genomic selection) established		Enriched and Climate Resilient Crops)		
				2. Release of Crop Varieties	2.1 No. of improved varieties	5
				3. New Diagnostics and vaccines	3.1 No. of new diagnostics and vaccines for animal & fish diseases:	5
e. Human Resource and Development						
	1. Human Resource Development (HRD): Provide support to star colleges, PG teaching programs, STP training programs, JRF, RA	1.1 No. of students/citizens trained in microscopy in current year	1,995	1. Creating skilled human resource 2. Generation of knowledge and highly trained manpower for teaching and R&D Recognize and nurture researchers	1.1 No. of students opting for PG courses from STAR Colleges	897
		1.2 No. of colleges supported under star college scheme	185		2.1 No. of students got placement after receiving BITP/DBT-JRF/DBT- RA/Skill training	300
		1.3 No. of PG student trained	798			
		1.4 No. of DBT-JRF fellowships awarded	300			
		1.5 No. of DBT-RA fellowships awarded	100			
	2. Activities supported for Skill Vigyan Programme	2.1 No. of STTP training programs conducted	15		2.2 No. of women scientists getting employment after working on projects under Bio CARE	50
		2.2 No. of students trained under BITP	200			
		2.3 No. of students trained under students Training Programme	200			

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	2022-23	Output	Indicators	Targets 2022-23	Outcome	Indicators	Targets 2022-23
	3. HRD: Provide support to researchers for undertaking innovative research & development activities in field of biotechnology	3.1	Total number of projects/women scientists supported under Bio CARE	30		2.3 No. of Ramalingaswami Re-entry fellows absorbed as permanent faculty in India (including past fellows) MALE/FEMALE	
		3.2	No. of Ramalingaswami Re-entry fellowships awarded	88			
		3.3	No. of Tata Innovation fellowships awarded	5			
		3.4	Innovative Young Biotechnologist Award	15			
		3.5	National Bio-Science Award for Career Development	10			
		3.6	National Women Bio-Scientist Awards	3			
		3.7	Biotech Product, Process Development and Commercialization Awards	5			
		3.8	Distinguished Biotechnology Research Professorship Award	2			
		3.9	MK Bhan-Young Research Fellowship Program	50			
		4. HRD: Recognize and nurture researchers: activities supported for Accelerate	4.1	No. of CTEP activities: Conference			
	4.2		No. of CTEP activities: Travel Grant	400			
	4.3		No. of CTEP activities: Popular Lectures	35			

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	Vigyant	4.4	No. of CTEP activities: Exhibitions	30				
		4.5	No. of CTEP event supported in Tier II cities	15				
		4.6	No. of CTEP event supported in tier- III cities	10				
	f. Biotechnology Research Resources and Facilities							
	1. Activities supported for Infrastructure Development	1.1	No. of national facilities established under DBT-SAHAJ	17	1. Research Resource Service Facility Programme	1.1	Total No. of users utilizing the facilities (academia and external users)	3,175
		1.2	No. of universities supported under DBT-BUILDER	12		1.2	No of R&D project using this facility	60
		1.3	No. of institutes supported under DBT DELCON	35		1.3	No. of guidelines and policy documents on biosafety regulation developed to streamline and adopt international best practices in biosafety regulations	4
	g. International Cooperation							
	1. Research and Development activities	1.1	New International Partnerships forged in current year	2	1. Biomedical Research Career Programme (DBT-WT/	1.1	High quality basic-clinical research partnerships developed through the programme	3
		1.2	Joint International call for proposals announced in current year	11				

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	2022-23	Output	Indicators	Targets 2022-23	Outcome	Indicators	Targets 2022-23
		1.3	No. of new international collaborative research projects funded in current year	44	India Alliance): Catalysing high-quality biomedical research and building research capacity in India		
		1.4	No. of ongoing International collaborative research projects in current year	135			
	2. Capacity Building & Human Resource Development	2.1	No. of workshops organised/supported in current year	12			
		2.2	No. of Scientific exchanges/ visits organized in current year under international collaborative research projects	30			
		2.3	No. of International Research Fellowships supported	107			
h. Biomedical Research Career Programme/ DBT-WT India Alliance (IC)							
	1. Provide financial & mentorship support to talented researchers for biomedical research (Human & Veterinary)	1.1	No. of clinical research centers provided financial support in current year	3	1. Generation of skilled manpower	1.1 No. of researchers benefitted	250
		1.2	No. of ongoing projects supported under: a) Human biomedical research b) Veterinary biomedical research	188			
		1.3	No. of activities supported for Capacity Building	74			
i. Biotechnology Based Societal Development							

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	2022-23	Output	Indicators	Targets 2022-23	Outcome	Indicators	Targets 2022-23	
	1. Expansion of rural bio-resource complexes / Technology demonstration centre / Units (Activities supported for Infrastructure development)	1.1	Number of rural Bio-resource Complexes/Rural Technology Clusters supported in Aspirational districts	30	1. Generation of opportunities for self-employment	1.1	No. of self-employment Generated Women/SC/ST/OBC	160
	2. Diffusion of proven and field-tested technologies through demonstration, training & extension activities	2.1	No. of hands on training / workshop / awareness conducted	250		1.2	No. of technological interventions introduced for application	10
		2.2	Total no. of beneficiaries trained / attended workshops	2,498				
		2.3	Providing training and demonstration to the beneficiaries for utilization of technologies Women/SC/ST/OBC	3,796				
	3. Biotech KISAN	3.1	No. of Biotech-KISAN Hubs supported	36	2. Biotech KISAN	2.1	No. of farmers beneficiaries (under both Demonstration & Training programmes)	1,00,000
		3.2	No. of demonstrations carried out	500				
		3.3	No. of interventions carried out	50				

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		3.4	No. of Hands-on workshops and training programmes conducted for farmers	200		2.3	No. of scale up activities carried out KVK's and State Agriculture Departments	50
		3.5	No. of training programme conducted for bio-entrepreneurship development	40		2.4	Beneficiaries for utilization of technologies Women/SC/ST/OBC	4,000
		3.6	No. of districts covered	150				
	j. Program for NER (North Eastern Region)							
	1. Support R&D Scientific Advancements	1.1	No. of NE-specific Germplasm collected	994	1. Support R&D Scientific Advancements: Agriculture Biotechnology & allied areas	1.1	No. of validated Bioformulations developed for local crops	4
		1.2	No. of germplasm-repositories, field gene banks, cryobanks, Scion/Rootstock Banks established for local germplasm in NER	8		1.2	No. of validated breeding protocols developed for NE food and ornamental fishes	3
		1.3	No. of High-Tech Nurseries & Crop Disease Diagnostic centres established for QPM	2		1.3	No. of New Diagnostics for Animal & Fish diseases developed	4
		1.4	No. of local Medicinal & Aromatic plant for which Captive cultivation, package of practices and Extract standardization is being carried out	6	2. Medicinal & Aromatic Plants, Environmental Biotechnology and	2.1	No. of NE specific Medical challenges being addressed in consortium mode	3

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		1.5	No. of QA/QC Facilities set up in NER	2	Bioresource based development	2.2 No. of technologies developed for the utilization of Bio-resources of NER, including value-added products	10
	2. Human Resource Development to match evolving needs of the region	2.1	No. of New Colleges/Universities supported under Biotech Hubs program	65	3. Human Resource Development to match evolving needs of the region	3.1 No. of students benefitted under Biotech Hubs programme	500
	3. Research Resource Service Facilities for NER	3.1	No. of Regional Facilities supported	4	4. Research Resource Service Facilities for NER	4.1 No. of NE states accessing the facility	8
		3.2	No. of advanced trainings being conducted for NE researchers	10		4.2 No. of researcher/students using the facility	200
	4. Development of Bio-resource for generation of Livelihood security and Entrepreneurship	4.1	No. of technologies/interventions demonstrated	10		4.3 No. of beneficiaries of the advanced trainings being conducted for NE researchers	100
		4.2	No. of Skill development-oriented trainings/workshops conducted for farmers' and local entrepreneurs	10	5. Development of Bioresource for generation of Livelihood security and Entrepreneurship	5.1 No. of Farmers' and local entrepreneurs benefitted	800
		4.3	No. of Districts & target area covered under demonstration projects	15			