

1. Research and Development (CS)

FINANCIAL OUTLAY (Rs in Cr)	OUTPUTS 2021-22			OUTCOMES 2021-22			
	2021-22	Output	Indicators	Targets 2021-22	Outcome	Indicators	Targets 2021-22
1,660.28	1. To promote the research and development.	1.1.No. of Ongoing projects Supported	2,100	1. Development in research and innovation in the biotechnology sector.	1.1.No. of manpower supported/ trained in the current year	21,000	
		1.2.No. of new projects supported	600		1.2. No. of female beneficiaries in the DBT funded project(PI/CoPI)	1,200	
		1.3.No. of Scientists supported PI/CoPI	4,600		1.3. No. of Publications	3,800	
		1.4.No. of research personnel supported (JRF/SRF/RA)	6,000		1.4. No. of Patents filed/ granted/commercialized in current year	80	
		1.5.No. of institutes supported	1,000		1.5. No. of products or technologies developed/transferred/commercialized (including software and databases)	120	
	a) Knowledge Generation & Discovery Research, New Tools and Technologies						
	1. Basic Research in Modern Biology, Biosystems& Bioprocess Engineering, Nano-Biotechnolog	1.1. Training / workshops/Brainstorming Meetings	140	1. Basic Research in Modern Biology, Biosystems& Bioprocess Engineering, Nano-Biotechnolog	1.1. Databases/ software developed	10	
		1.2. E-journals available on shared network	2,000		1.2. New Methods/assays/kits developed or validated/improved over existing ones	4	
		1.3. Institutions accessing shared research resources such as DeLCON	70		1.3. Genome Edited Events/Model Organisms/Cellular Systems generated	5	

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	y, Genetic Engineering & Technologies and Bioinformatics: Knowledge Generation & Discovery Research, New Tools and Technologies	1.4. Nanobased Interventions Made towards development of diagnostics/Drugs/Agriculture tools	10	y, Genetic Engineering & Technologies and Bioinformatics: Enhanced research and innovation in sciences	1.4. Development of nanotized products/nanotization of existing products with enhanced efficiency	4	
		1.5. Establishment of proof-of-concept using genome-editing technologies	10		1.5. Establishment of biological mechanisms	4	
		1.6. New Bioinformatics Centers established	10				
		1.7. Ongoing Bioinformatics centers supported	10				
	b) Medical Biotechnology: Frontier research & innovation in Modern Biology for Healthcare						
	1. Affordable Healthcare (Biopharma products and Anti-microbial resistance)	1.1. No. of projects (ongoing/new) supported for development of affordable biopharmaceuticals (vaccines/biosimilars)	10	1. Affordable Healthcare (Biopharma products and Anti-microbial resistance)	1.1. No. of vaccine candidates accelerated through various stages of development	2	
		1.2. No. of projects (ongoing/new) supported for development of affordable diagnostics kits/ devices.	10		1.2. No. of diagnostic kits/medical devices developed	4	
		1.3. No. of projects (ongoing/new) supported under AMR	10		1.3. No. of manpower trained	100	
		1.4. No. of workshops / trainings conducted	20		1.4. Development of affordable diagnostics for Antimicrobial resistance surveillance	3	

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		1.5.No. of facilities established	5		1.5.Deposition of AMR samples in NCMR Biorepository	10,000	
	2. Affordable Healthcare (Genomics)	2.1. Number of subjects enrolled and phenotyped	6,666	2. Affordable Healthcare (Genomics)	2.1. Genome Sequencing of the Indian Population	3,333	
		2.2.Number of genomes sequenced	3,333		2.2.Manpower trained in human genome sequencing and human Genomics data analysis	120	
		2.3.Number of Genome Sequences analysed and variants called	3,333		2.3.Publications in the area human genomics and identification of genetic variants for the Indian population	5	
		2.4.Numbers of individuals who have undergone array-wide genotyping	3,333		2.4.Development of a database of genetic variations in Indians	1	
	3. Affordable Healthcare (Rare and Genetic Disorders)	3.1. Number of Nidan Kendras Established	6,666	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. Support capacity building, research & development	1.1. No. of workshop/ symposia/ brainstorming meeting/ trainings organized in the DBT funded project	50	1. Capacity building & scientific advancements	1.1. Platform for engineering bioremediation approaches for petroleum/ PAH contaminated sites, Established national and international collaboration in cutting	4	

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					edge or gap areas, launch of International proposal on Bioeconomy Mission and development of prototypes and demonstration of Waste to Value projects		
		1.2. No. of New facilities established in the DBT funded project		3		1.2. Development and demonstration of algal biofuel at pilot scale, scale up of cellulytic enzyme and testing at 2G ethanol pilot plant	1
		1.3. No. of New Network/Mission Programmes supported		3		1.3. Scale up of Clean technologies for treatment of municipal solid waste (biomethanation) and sewage (cavitation and algal photobioreactor, constructed wet land	3
		1.4. No. of CoEs supported in area of waste to energy/ bioenergy/phytopharma		5			
		1.5. Number of demonstration projects supported		5			
	d) Agriculture biotechnology and allied areas: Support R&D Scientific advancements						
	1. Agriculture biotechnology and allied areas: Support R&D Scientific advancements	1.1.No. of workshop/ symposia/ brainstorming meeting/ trainings organized in the DBT funded project		15	1. Mission programme on Germplasm characterization	1.1.No. of improved varieties	20
		1.2.No. of Facilities (Speed Breeding & genomic selection) established		3	2. Gene Editing (Nutritionally Enriched and Climate	2.1. No. of gene edited lines	20

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					Resilient Crops)		
		1.3.No. of New Network/Mission Programmes supported	4	3. Release of Crop Varieties	3.1. No. of improved varieties	4	
		1.4.Capacity building programmes (fellowships/trainings) supported in Agriculture & Allied Areas	5	4. Mission programme on Germplasm characterization	4.1.No. of draft genome assembly	2	
		1.5.No. of CoEs supported in emerging areas of Agriculture and Allied Areas	4	5. Gene Editing (Nutritionally Enriched and Climate Resilient Crops)	4.2.No. of lines characterized phenotypically/genotypically of various crops	50,000	
				6. New Diagnostics and vaccines	5.1. No. of gene edited lines	2	
					6.1. Number of new diagnostics for animal & fish diseases	2	
					6.2. Number of development of new/modified existing animal vaccines	2	
	e) Human Resource and Development						
	1. Human Resource Development	1.1 No. of students/ citizens trained in microscopy in current year	2,000	1. Creating skilled human resource	1.1 No. of students opting for PG courses from STAR Colleges	900	

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	(HRD): Provide support to star colleges, PG teaching programs, STP training programs, JRF, RA	1.2 No. of new colleges supported under star college scheme	50		1.2 No. of students got placement after receiving BITP/DBT-JRF/DBT-RA/Skill training	300	
		1.3 No. of ongoing colleges supported under star college scheme	145	2. Generation of knowledge and highly trained manpower for teaching and R&D	2.1 No. of women scientists getting employment after working on projects under BioCARE	50	
		1.4 No. of PG student trained	800		2.2 No. of Ramalingaswami Re-entry fellows absorbed as permanent faculty in India (including past fellows) MALE/FEMALE	30	
		1.5 No. of DBT-JRF fellowships awarded	300	3. Recognize and nurture researchers	3.1 No. of students/researchers participated	2,000	
		1.6 No. of DBT-RA fellowships awarded	100		3.2 No. of researchers received awards	5	
		2. Activities supported for Skill Vigyan Programme	2.1 No. of STTP training programs conducted	15			
			2.2 No. of students trained under BITP	200			
			2.3 No. of students trained under Technical Training Programme	100			
			2.4 No. of students trained under students Training Programme	200			
			2.5 No. of students trained under Entrepreneurship Training Programme	50			

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	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			
		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	4.1 No. of CTEP activities: Conference	150		
	4.2 No. of CTEP activities: Travel Grant		400			
	4.3 No. of CTEP activities: Popular Lectures		35			

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	Accelerate Vigyan	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	15	1. Research Resource Service Facility Programme	1.1 Total No. of users utilizing the facilities (academia and external users)	2,550
		1.2 No. of Universities supported under DBT-BUILDER	10		1.2 No of R&D project using this facility	50
					1.3 Number 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/India Alliance):Catalysing high-quality	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			
		1.3 No. of new international collaborative research projects funded in current year	44			

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	2021-22	Output	Indicators	Targets 2021-22	Outcome	Indicators
		1.4 No. of ongoing International collaborative research projects in current year	135	biomedical research and building research capacity in India		
	2. Capacity Building & Human Resource Development	2.1 No. of workshops organized/ 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 Number of clinical research centers provided financial support in current year	3			
		1.2 Number 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						
	1. Expansion of rural bio-resource complexes / Technology	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 Number of self-employment Generated Women/SC/ST/OBC	160

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		demonstration centre / Units (Activities supported for Infrastructure development)					
	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:	2,500		1.3 Providing training and demonstration to the beneficiaries for utilization of technologies Women/ SC/ ST/ OBC	3,800
			2.3 No. of technologies/ interventions demonstrated	30			
	3.	Biotech KISAN	3.1 No. of Biotech-KISAN Hubs supported	145	2. Biotech KISAN	2.1 No. of Districts covered	150
			3.2 No. of Demonstrations carried out	500		2.2 No. of Farmers beneficiaries (under both Demonstration & Training programmes)	1,00,000
			3.3 No. of Interventions carried out	50		2.3 No. of Women and Tribal farmer beneficiaries	30,000
			3.4 No. of Hands-on workshops and training programmes conducted for farmers	200		2.4 No. of Success stories	75
			3.5 No. of training programme conducted for bio-entrepreneurship development	40		2.5 No. of scale up activities carried out KVK's and State Agriculture Departments	50

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					2.6 No. of successful bio-entrepreneurs developed.	150
	j) Program for NER (North Eastern Region)					
	1. Support R&D Scientific Advancements	1.1 No. of Brainstorming Meetings organized to develop NER specific R&D programmes	4	1. Support R&D Scientific Advancements: Agriculture Biotechnology & allied areas	1.1 Number of NE-specific Germplasm collected	1,000
		1.2 No. of New Network/ Mission Programmes supported in the area: Agriculture Biotechnology & Allied areas, (Medical Biotechnology & Allied areas, Medicinal & Aromatic Plants, Environment Biotechnology and Bioresource based Developments.	50		1.2 No. of germplasm-repositories, field gene banks, cryobanks, Scion/Rootstock Banks established for local germplasm in NER	8
		1.3 No. of New Centres of Excellence supported in NER	2		1.3 No. of High-Tech Nurseries & Crop Disease Diagnostic centres established for QPM	2
		1.4 No. of Ongoing Centres of Excellence supported in NER	3		1.4 No. of validated Bioformulations developed for local crops	4
	2. Human Resource Development to match evolving needs of the region	2.1 No. of New Colleges/Universities supported under Biotech Hubs program	65		1.5 No. of New Diagnostics for Animal & Fish diseases developed	5
		2.2 No. of NE Schools new supported under the BLiSS-DNA Club Programme	85		1.6 No. of validated breeding protocols developed for NE food and ornamental fishes	5

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		2.3 No. of trainings/ hands-on workshops conducted for students and researchers in advance biotechnologies by National Institutions	4	2. Medical Biotechnology & allied areas	2.1 No. of NE specific Medical challenges being addressed in consortium mode	3
		2.4 No. of Eminent Scientists supported under Visiting Research Professorship Programme	10		2.2 No. of Bio-repositories established in NER for samples collected under the New Pathogen Discovery Program	2
	3. Research Resource Service Facilities for NER	3.1 No. of Regional Facilities supported	6		2.3 No. of samples deposited in Bio-repositories under the New Pathogen Discovery Program	80
	4. Development of Bioresource for generation of Livelihood security and Entrepreneurship	4.1 No. of New Demonstration projects supported	15	3. Medicinal & Aromatic Plants, Environmental Biotechnology and Bioresource based Development	3.1 No. of local Medicinal & Aromatic plant for which Captive cultivation, package of practices and Extract standardization is being carried out	6
		4.2 No. of Ongoing Demonstration projects supported	3		3.2 No. of QA/QC Facilities set up in NER	2
		4.3 No. of technologies/interventions demonstrated	15		3.3 No. of technologies developed for the utilization of Bio-resources of NER, including value-added products	15
		4.4 No. of Skill development oriented trainings/workshops conducted for farmers' and local entrepreneurs	30	4. Human Resource Development	4.1 No. of specialized R&D training programmes conducted at Biotech Hubs	75

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	2021-22	Output	Indicators	Targets 2021-22	Outcome	Indicators	Targets 2021-22
					to match evolving needs of the region	4.2 No. of UG/PG/JRF/ PDFs trained at Biotech Hubs	2,000
						4.3 No. of local entrepreneurs and farmers trained at Biotech Hubs	500
						4.4 No. of trainings/ hands on workshops and field trips conducted for school students under BLiSS-DNA club programme	25
						4.5 No. of School students trained under local bioresource awareness programme under BLiSS-DNA club programme	1,000
						4.6 No. of NE Institutions benefitted by Visiting Research Fellowship	8
					5. Research Resource Service Facilities for NER	5.1 No. of NE states accessing the facility	8
						5.2 No. of researcher/students using the facility	200
						5.3 No. of advanced trainings being conducted for NE researchers	8
					6. Development of Bioresource for generation of Livelihood security and Entrepreneurship	6.1 No. of Farmers' and local entrepreneurs trained	10,000
						6.2 No. of Districts & target area covered under demonstration projects	50

2. Industrial and Entrepreneurship Development (IED) (CS)

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	Output	Indicators	Targets 2021-22	Outcome	Indicators	Targets 2021-22
960.00	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	800
		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 current year.	70			
		3.3 No. of Small Business Innovation Research Initiative (SBIRI) supported in the current year.	54			

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		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 from lab to commercial scale: Setting up of tech clusters	4.1 Number of M-Zones established	1			
		4.2 Number of TPropellers established	2			