

**GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH
LOK SABHA
UNSTARRED QUESTION NO. 5305
ANSWERED ON 05.04.2023.**

NRDC

5305 SHRI SANTOSH KUMAR

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

- (a) the aim and target of National Research Development Corporation (NRDC);**
- (b) whether NRDC has identified innovators to promote technology in the country preferably for the rural innovation;**
- (c) if so, the details thereof including the numbers of innovators, State and project-wise; and**
- (d) whether NRDC has sanctioned and released any funds to the innovators and if so, the details thereof?**

ANSWER

**MINISTER OF STATE (INDEPENDENT CHARGE)
SCIENCE & TECHNOLOGY AND EARTH SCIENCES
(Dr. JITENDRA SINGH)**

- (a) National Research Development Corporation (NRDC) is a Government of India enterprise under the administrative control of Department of Scientific & Industrial Research (DSIR), Ministry of Science & Technology, established in 1953 under Section 25 (now Section 8) of the Companies Act, 2013. The vision, mission and mandate of the corporation is as follows:**

Vision:

To be a leading Technology Transfer Organization in India

Mission:

To promote, develop, nurture & commercialize innovative, reliable & competitive technologies from R&D institutes through value addition & partnership.

Mandate:

- **To effectively translate the outcome of R&D institutes to industry for creating wealth and jobs for the society**
- **Hand-holding support to Innovators and start-ups**
- **Provide consultancy & information on S&T Matters to all stake-holders**
- **To facilitate & implement Govt. of India's S&T Promotional Projects & Flagship Programs within country & abroad.**

To meet its mandate, National Research Development Corporation (NRDC), has been carrying out both commercial and promotional activities, the details of activities are summarized below: -

Commercial Activities:

- **Licensing of technologies to companies and end user organizations.**
- **Intellectual Property Rights (IPR) consultancy to R&D Institutes, Industry / MSME and individual inventors.**
- **Export of Indian technologies / know-how and services.**
- **Execution of turnkey projects abroad based on indigenous technologies.**
- **Execution of Consultancy Projects**

Promotional Activities: Implemented through two schemes mentioned below:

Scheme1: Programme for Inspiring Inventors & Innovators (PIII):

The programme is planned to encourage the innovators / inventors in developing new innovative technologies & products as well as rendering technical and financial assistance for protection of inventions by filing IPR in India and abroad.

The major activities carried out are:

- i. Technology Development, Validation and Commercialization (TDVC)**

- **Support the technology from POC stage to Pre-commercialization**
- **Seed funding by way of equity for taking technology from pre-commercialization to commercialization stage**

ii. Patent Assistance

iii. Managing Incubation Centres

Scheme 2: Programme for Development of Technologies for Commercialization (PDTC)

The major objective of the scheme is to provide support to lab scale technologies for making it acceptable by the industry through value-addition, dissemination of information on such developed technologies to industries and provide part of capital as seed fund.

The activities carried out are:

- i. Maturing of Laboratory Scale Technologies for Commercialization: Value addition viz. BEDP, Market survey, socio-economic Impact assessment of NRDC Licensed technologies etc.**
- ii. Dissemination of Information on Technologies: Exhibitions, Publications, Advertisement, Industry Interaction meets.**
- iii. Start-up India: Seed funding of manufacturing start-ups in incubation centres.**
- iv. Opening of outreach office of NRDC for promoting IP and Technology Transfer**

(b) The Corporation has identified the technologies developed by various innovators for further promotion under the following scheme activities:

i. Technology Development, Validation and Commercialization (TDVC)

To accelerate the large scale commercialization process of technologies from Start-ups, MSMEs and Industries having high commercial potential or societal impact through financial assistance by way of grant-in-aid and equity participation. Technologies at TRL 2 to 4 will be provided support to extent of Rs.1.00 crore for taking it to TRL 6 to 8 in Phase I. Under Phase II, further support of Rs.1.00 crore is provided against equity for putting-up commercial plant.

ii. Techno-Commercial Support

Under this scheme, NRDC provides techno-commercial support to Indian inventors / scientists / technocrats / NRDC Licensees, etc to make the developed technology marketable and acceptable to entrepreneurs and industry. NRDC provides Techno-commercial support of up to Rs.2.00 Lakhs for overcoming minor issues like testing of the product, improvement in prototypes, preparation of comprehensive know-how document, etc.

iii. Priority Projects:

The objective of Development Projects and Value Addition for Priority Projects (DPVAPP) is to provide support to R&D organizations / Academic Institutions/ NRDC Licensee/Individual Innovator(s) for the development and value addition to the technologies that are at the laboratory scale/bench scale or prototype stage so that these become commercially successful. Under the scheme, Corporation provides technology development fund of upto Rs.10 Lakhs.

(c) & (d) The list of technologies / Projects, innovators supported by NRDC under TDVC, Techno-Commercial Support and Priority Projects along with the funds sanctioned are listed in Annexure 1

Activity: Technology Development, Validation and Commercialization (TDVC)

FY 2021- 22	Technology Title	Key Features	Beneficiary Name	Funds Sanctioned (Rs Lacs)
1	Multi-spectral imaging device combining autofluorescence and tissue oxygenation for AI based Integrative assessment of diabetic foot ulcers and wounds – A hand-held device for tissue analytics, infection detection	Development of illuminated advanced hand-held device for tissue analytics, infection detection, classification and wound tissue oxygenation	Adiuvo Diagnostics Private Limited, Chennai, Tamil Nadu	82.50
2	Heat Insulating & Fire Insulating Materials and Process of their development	TiFi Yarn developed and patent protected. Design & develop light weight, low cost products like hood, coat, trouser, gloves, shoe, etc. using heat insulating & fire insulating fabric that can withstand extreme heat and fire for more than 150 seconds (Target is 5 minutes or more)	Securefire Safety Industries Pvt. Ltd., Uttam Nagar, New Delhi	77.80
3	Preclinical validation of 3D printed silicone breast implants for cancer survivors	Manufacturing personalized prosthesis and implants for breast cancer survivors. A silicone 3D printer (Silimac P250), which employs iEAM technology, can handle 'implant-grade' silicones of viscosity upto 4000 Pa.s	Prayasta 3D Inventions Private Limited, Bangalore, Karnataka	85.00
FY 2022-23				
4	Wearable Methanol Fuel Cell Power Pack for Soldiers	Development of light weight, low temperature, compact, portable power pack based on Proton Exchange Membrane (PEM) Fuel cells	Aatral Innovations Private Limited, Chennai, Tamil Nadu	89.20

5	TMSG-DC (Thermoelectric Module Static Generator- DC Power)	Develop low-cost, portable, reliable, integrated, long life, rugged and compact thermo-electric based static DC power generator of 1 KW generator / scaling up from 200 W to 1 KW. Device works on the principle of Seebeck effect.	Prayogik Technologies Private Limited, Bhopal, Madhya Pradesh	80.00
6	Reusable and Adjustable Surgical Osteotomy Guide for Fibula Free Flap Surgery in Mandibular Reconstruction	Provide an improved adjustable surgical jig apparatus for fibula free- flap surgery and mandibular reconstruction	Precisurg Private Limited, Nagpur, Maharashtra	89.00
7	Aum Voice Prosthesis	Development of affordable and compatible voice prosthesis for throat cancer patients that allows the patient to speak even in the absence of a larynx.	Innaumation Medical Devices Private Limited, Bangalore, Karnataka	59.47
8	One Pot Synthesis of Solid And Liquid Bio-Nano (Ag/Cu/Zn) Materials	Scaling up technology for production of Ag / Cu / Zn bio nano-metals in a single step both solid and liquid phase at lab scale in terms of mL (1000 mL). The product is used as sanitizers and disinfectants.	NSMR Private Limited, Roorkee, Uttarakhand	54.87

Activity: Techno-Commercial Support**Year: 2019-20**

S.No.	Technology Title	Beneficiary Name	Funds Sanctioned (Rs Lacs)
1	Water, Cost and Energy Saving RO Based Water Purifier	Mr. Naveen Kumar Plot 699, Sector 33, HUDA Urban Estate, Karnal	2.00
2	Smaller millet based break-fast cereals.	UAS, Bengaluru	2.00
3	Field testing of liquid formulation of Pochonia chlamydosporia against nematodes in black pepper	ICAR-Indian Institute of Spices Research (IISR), Kozhikode, Kerala	2.00
4	Field demonstration of biological control of thrips in small cardamom using granular formulation of Lecanicilliumpsalliotae	ICAR-Indian Institute of Spices Research (IISR), Kozhikode, Kerala	2.00
5	Specific supplements for Cancer patients.	Esperor Bioresearch, Mumbai	2.00
6	Indigenous Johnin from native strain Indian Bison Type of Mycobacterumaviumsbusp. Parabuberculosis for the diagnosis of John's disease in domestic livestock as the field test	GLA, University, Mathura	2.00

Year: 2020-21

S.No.	Technology Title	Beneficiary Name	Funds Sanctioned (Rs Lacs)
1	Corona Protective Gloves/PPE and Frequently touchable places	Dr. Biswarup Neogi/JIS College of Engg., Kalyani	2.00
2	High capacity disinfectant spraying machine with auto-retractable hose reel for use in large public spaces	Mr. Bhavanarayana Kotte, Ramachandra College of Engineering, Andhra Pradesh	2.00
3	Activated bamboo carbon filters for enhanced safety in personal protection masks	Centre for Indian Bamboo Resource & Technology (CIBART), New Delhi	2.00
4	Foot Operated Sanitizing station	Rudrani Hospitality Solutions, Okhla, New Delhi	2.00
5	Space Sanitizer	Mr. Navneet Pal, Kanpur-Individual	2.00
6	Preparation of prototype of washable & reuseable PPE Kit for corona warriors for commercial scale	Mr. Nagesh Netaji Bramhanathakar/MIT-center for analytical research & studies, Aurangabad-MS	2.00
7	Treatment of wastewater discharged from Covid-19 hospital and other screening centres by using electrochemical based "Elcogen Technology"	LN Indtech Services Pvt. Ltd. Bhubneshwar	2.00
8	Novel Carbone tube based hand sanitizer and hand wash gel	Biocyte Institute Of Research & Development (Bird), Sangli	1.80

Year: 2021-22

S. No.	Technology Title	Beneficiary Name	Funds Sanctioned (Rs)
1	Preparation of Arappu (Albizia Amara) Based Herbal Shampoo Fortified With Fruit Pulp Extract of Aegle Marmelos and Testing the Efficacy of the Product for Acceptability and Applicability	Kongunadu Arts and Science College (Autonomus), G N Mills Coimbatore	2,00,000.00
2	High Precision Optical Standard Glass Scales- commonly used in precision measurement applications, such as in coordinate measuring machines (CMMs), having accuracy upto 2 nano meters (Know-how Document)	Central Manufacturing Technology Institute (CMTI) Bangalore	25,000.00
3	High Precision Optical Standard Glass Scales commonly used in precision measurement applications, such as in coordinate measuring machines (CMMs), having accuracy upto 2 nano meters (Prototype development)	Central Manufacturing Technology Institute (CMTI), Bengaluru	2,00,000.00
4	Production of first indigenous growth promoter 'Mycobactin J' for the growth of Mycobacterium para-tuberculosis, a major pathogen infecting livestock and humans	GLA University, Mathura	2,00,000.00
5	Production of Anti Corrosive Carbon based paint and coating from the waste tyre pyrolysis char	Ln Indtech Services Pvt Ltd, Odisha	2,00,000.00

Year: 2022-23 (as on 28.02.2023)

S.No.	Technology Title	Beneficiary Name	Funds Sanctioned (Rs Lacs)
1	Validation of lateral flow based rapid assay for the differential sero-diagnosis of Mycobacterium tuberculosis complex (MTBC) infection in animals	Centre for Vaccines and Diagnostic Research, GLA University, Mathura	2.00
2	Preparation of know-how document of "A process of manufacturing of Graphene from Waste Plastics	Kumaun University, Nainital, Uttarakhand / Prof. Nanda Gopal Sahoo	0.25
3	Development and Standardization of Technologies for Extraction and Value Addition of Natural Fibers	Centre for Indian Bamboo Resource and Technology (CIBART), New Delhi	2.00
4	Optimizing Helical Flow Drip Emitter through Lab Testing	Mr.VenkataRamamohanRamac handrula, Individual inventor from Hyderabad	1.75
5	Advance Micro Ear Surgical Instruments Kit	Sharada University, Greater Noida	2.00
6	Adjustable Tapered Vice	MLR Institute of Technology, Hyderabad	2.00
7	Development and Performance Evaluation of Mulberry Waste Biopolymer Composite Based Mulching Mats	The National Institute of Engineering (NIE), Mysuru and Central Sericultural Research and Training Institute (CSR&TI), Mysuru	2.00
8	Underwater Kikkisa and Weed Removal Cutting Machine for Irrigation canals and water drains	Ramachandra College of Engineering, Andhra Pradesh	2.00
9	Fabrication of semi-automatic seed Cube making Machine	Tamil Nadu Agricultural University (TNAU), Coimbatore	1.97
10	Development of Kodo Millet milk beverage powder	Tamil Nadu Agricultural University (TNAU), Coimbatore	2.00

Activity: Priority Projects**Year: 2019-20**

S.No.	Technology Title	Beneficiary Name	Funds Sanctioned (Rs Lacs)
1	Upgradation of the Millets based value added food products & its Process technology	UAS, Bengaluru	10.00
2	Development and standardisation of technologies for extraction and value addition of Nettle fiber	CIBART, Delhi	10.00

Year: 2020-21

S. No.	Technology Title	Beneficiary Name	Funds Sanctioned (Rs Lacs)
1	New Prototype Development for NavRakshak PPE	Institute of Navel Medice, Indian Navy, GOI	5.00
2	AI-enabled Covid virtual test kit : A cloud based healthcare technology	VBRI Innovation Pvt. Ltd., New Delhi	10.00
3	Plasma Activated Ozone Sanitizer	Institute of Design of Electrical measuring instruments, Mumbai	10.00
4	Rapid and reliable diagnostic biosensors for covid-19	The M.S. University of Baroda	9.90
5	Development of Scalable, safe and cost effective process for API of Unifenovir (Arbidol) a promosing repurposed drug for Covid 19 India	National Institute of Pharmaceutical Education and Research (NIPER)	10.00

Year: 2021-22

S. No.	Technology Title	Beneficiary Name	Funds Sanctioned (Rs Lacs)
1	Development of High Temperature Self-sustaining Low Energy Nuclear Reactor (LENR) – a source of energy with no harmful emissions	Swami Vivekananda Yoga Anusandhana Samsthana (S-VYASA University), Bangalore	9.95
2	Agro Farming & Gardening Machine	Indiaskillpedia Foundation Govt. of Assam & Work carried at: M/s Prenach Tools, Coimbatore, Tamil Nadu	10.00
3	Additive manufacturing of micro architected materials for energy and mechanical applications	Central Manufacturing Technology Institute (CMTI), Bengaluru	10.00

Year 2022-23 (as on 28.02. 2023)

S. No.	Beneficiary Name	Technology Title	Funds Sanctioned (Rs Lacs)
1	Scalable Synthesis of Graphene and its Derivatives from Rice Straw Waste and their Applications in Energy Storage and water purification	Kumaun University, Nainital, Uttarakhand	10.00
2	Bioadhesive patch for buccal/sublingual delivery of Insulin	Department of Pharmacy from Central University of Rajasthan	10.00
3	Field testing of lime based microbial formulation for soil amelioration and disease management	ICAR- Indian Institute of Spices Research, Kozhikode, Kerala	10.00
