

Government of India
Ministry of Science and Technology
Department of Biotechnology

SUB: Cabinet Summary for August-2020

I. Important policy decisions taken and major achievements are as follows:

1. MEDICAL BIOTECHNOLOGY

A. COVID related Initiatives:

- i. **PAN-India 1000 Genome Sequencing of SARS- CoV-2 initiative:** Dr. Harsh Vardhan, Hon'ble M/o S&T & ES and MoHFW announced the successful completion of the PAN-India 1000 Genome Sequencing of SARS- CoV-2 initiative on August 1, 2020.
- ii. The Hon'ble Minister also launched and dedicated to the Nation, the largest national COVID-19 Biorepository Network supported by DBT. Five biorepositories have been supported. So far, 44452 clinical samples and 17 viral isolates have been collected and 5014 samples shared with around 30 institutions. 3 diagnostic kits are being evaluated at THSTI, Faridabad and 1 is being tested at ILS, Bhubaneswar.
- iii. **Second meeting of the COVID-19 Vaccine Expert Committee:** In the meeting, progress of projects being supported by DBT-BIRAC for COVID-19 vaccine development was reviewed.
- iv. **Tenth meeting of the Empowered Technology Group (ETG) and the PMO constituted Task Force:** In the meeting held on 18 August, 2020, the Department presented the Indian COVID Vaccine Development Mission - entitled "COVID Suraksha" for endorsement by the task force. This was recommended for support.
- v. **First meeting of the Covid-19 Working Group (NTAGI-STSC):** The first meeting of the Covid-19 Working Group (NTAGI-STSC) was held on August 24th, 2020 via videoconferencing, the surveillance and preparatory efforts needed for implementing the COVID vaccines (if approved) in the National programme were discussed. The Department also presented the overall efforts for supporting COVID-19 vaccine development.
- vi. Considering the participation of the Government of India in the 'Access to COVID-19 Tools (ACT) Accelerator', hosted by WHO; consolidated weekly updates are being provided by DBT to the office of the Hon'ble Minister.
- vii. **DBT City/Regional Clusters for Covid-19:** The City /Regional clusters are being established in a Hub and Spoke model to scale-up testing of COVID-19 samples in government institutions across the country. The Hubs are Government laboratories approved by respective Ministries /Departments (DBT, DST, CSIR, DAE, DRDO, ICAR etc) as per ICMR guidelines. So far 21 City

/Regional clusters have been established. More than 100 institutions are involved and over 9,58,318 samples have been tested.

viii. **Special call on COVID-19 research consortium:** DBT and BIRAC announced a joint call for proposals- COVID-19 research consortium. A total of 120 proposals were reviewed for support through dedicated Area Review Panels (ARP) and the Panel recommended 17 proposals. At present, five projects has been sanctioned.

B. CAR-T cell Technology in India: A meeting of the Special Technical Expert Committee to review the proposals received under an initiative for development of CAR-T cell technology was held on 18th August 2020. The technology is highly useful in Cancer treatment.

C. Others: A Brain Storming meeting was organized on 06th August, 2020 on the topic 'Effects of Maternal Malnutrition on Child's Brain: A National Brain Initiative.

2. International Cooperation

A. Indo-EU Cooperation: Department of Biotechnology, Ministry of Science & Technology and EUREKA (inter-governmental network of 45 countries in Europe and beyond) have signed a Declaration of Intent (DoI) to work together within the framework of 'Globalstars' for fostering technological exchanges and collaboration in research and innovation.

B. Indo-Korea Joint Network Centre Meeting: In a first meeting held on 28th August, 2020, 7 proposals were evaluated under India-Korea Joint Network Centre.

3. National Biotech Resource Indigenization Consortium: Towards Atma-Nirbhar Bharat: The Department submitted a concept note for in-principle approval from Department of Expenditure on "National Biotech Resource Indigenization Consortium -Towards AtmaNirbhar Bharat'. The proposed Consortia aims to drive indigenous innovation in a public private partnership for developing resources and services across the biomedical product value chain including diagnostics, vaccines and therapeutics for COVID19 and beyond. It is aims to bridge the demand-supply gaps of biologicals and decrease high import dependencies of raw material and equipment.

4. Aspirational District Outreach: A project titled "Augmentation of rural livestock economy through multifaceted approach in Kadapa district of Andhra Pradesh" was sanctioned in Sri Venkateswara Veterinary University, Andhra Pradesh. The aim is to augment livestock economy through backyard poultry promotion; Controlling lamb mortality, mastitis and infertility in cattle and buffaloes and Increasing the income generation for livestock produce through value addition.

5. Startup/Make in India Initiative:

First Hub: Facilitation of Innovation and Regulations for Start-Ups and Innovators: 'First Hub' is a facilitation unit set up by DBT at BIRAC to address the queries of Innovators. With regards to prevailing situation around globe, special FIRST

HUB COVID-19 sessions are being held every alternate Friday to solve the queries of innovators. Representatives from CDSCO, ICMR, NIB, GeM, KIHT, BIS, DBT and BIRAC are available to take queries on regulatory pathways, funding opportunities, public procurement, IVD testing and validation, standards and specifications, manufacturing and testing infrastructure support. In August sessions held on 7th & 21st August'20, more than 175 queries were taken.

6. Biosafety and Regulation:

A. RCGM activities: The division had conducted 187th meeting of Review Committee of Genetic Manipulation (RCGM) on 13.08.2020. During the meeting, the Committee considered 56 applications including information items submitted by the various applicants. After deliberation on each application, appropriate decision was taken by the RCGM.

During the month 34 Institutional Biosafety Committee were constituted on IBKP portal.

B. The 2nd meeting of Recombinant DNA Advisory Committee (RDAC) was held on 18th August'2020. The 5th (final) Meeting of Expert Committee to finalize the Standards/ Specifications for the Establishment of Containment Level 3 and 4 was held on 31st August'2020.

C. DGFT Cases: The comments of the Department were communicated to DGFT on seven application seeking permission for export of SCOMET (Special Chemicals, Organisms, Materials, Equipment and Technologies) items.

II. AUTONOMOUS INSTITUTIONS

A. Covid related activities:

i. The institutional Covid-19 testing centers tested the samples - DBT-IBSD-JNIMS Covid-19 testing laboratory at Imphal, Manipur has initiated independent testing and has crossed the first milestone of having tested the 1000 samples.

ii. National Centre for Cell Sciences (NCCS), Pune, is a COVID testing centre since April, 2020, to facilitate COVID surveillance. This centre tested over 1500 samples from Maharashtra in August, taking the total number of samples tested at NCCS to over 17000 samples. In a Biobank of blood cells and plasma, 109 patient samples have been preserved so far.

iii. Translational Health Science and Technology Institute (THSTI), Faridabad performed >32000 COVID-19 tests on the samples received from Bk Hospital, Faridabad, Civil Hospitals of Palwal & Gurugram. In its efforts to provide vaccine development, the institute conducted Serum Neutralization Tests (SNT) for 18 samples received from MynVax. Bioassay lab completed beta testing of COVSCAN-SARS-CoV-2 RT-PCR kit by NextGen InVitro Diagnostics Pvt Ltd. In addition, THSTI has developed standardized serological assays for immune profiling of clinical human samples, immunized sera from animals, efficacy testing of antiviral drugs, therapeutics for COVID-19

- iv. Scientists at NCCS has synthesized a peptide towards proof-of-concept synthetic antigen-based vaccine to elicit SARS-CoV-2-specific IgA antibodies to protect lungs / mucosal surfaces. Seven days after immunization, the mice show no changes observed in the immunized mice. The first ELISA (preliminary results) tests show strong IgG signal against Antigen-2, which will be verified in due course.
- v. Center of Innovative and Applied Bioprocessing (CIAB), Mohali - Polypyrrollic photosensitizer nano-formulations for COVID-19 antiviral photodynamic therapy (aVPDT): BODIPy entrapped lignin nanoparticles are being prepared for antiviral testing at RCB.

B. North East initiative:

- i. Institute of Bioresources and sustainable development (IBSD), Shillong has recently been awarded a 3 years project by BIRAC on "Setting up of BioNEST Incubator to develop women bio entrepreneurship through orchid floriculture in Meghalaya" at Institute of Bioresources and Sustainable Development (IBSD), Upper Shillong and Bio-resources Development Centre, Upper Shillong under BIRAC's BioNEST program.
- ii. Another project in IBSD on studies on anti-SARS-CoV-2 activity of selected medicinal plants and formulations in cell culture model of virus infection" under "*DBT-AYUSH Network on R&D Activities related to SARS-CoV-2 Virus and COVID-19 Disease*" to be implemented jointly at Regional Centre for Biotechnology (RCB), Faridabad; IBSD, Imphal and Jadavpur University, Kolkata.

C. Skill Development:

- i. National Institute of Immunology (NII), New Delhi - 22 candidates have been selected for admission to the PhD programme of the Institute for the academic year 2020-21.
- ii. National Institute of Plant Genome Research (NIPGR) - Three candidates have started their training, under NIPGR Short-Term Training programme. Six scholars of the Institute have successfully defended their thesis viva voce in fulfillment of their Ph.D. programme. The interviews for admission to the Ph.D. Programme of the Institute for the academic year 2020-21 have been conducted through online mode during August 4 & 5, 2020.
- iii. Translational Health Science and Technology Institute (THSTI), Faridabad bioassay laboratory has trained the staff of ESIC hospital Faridabad, SHKM Govt. Medical College, Nalhar, and SGT Hospital Gurugram in handling and processing samples for COVID-19 testing for real-time PCR-based diagnostics

D. Patents filed:

- i. Institute of Life Sciences (ILS), Bhubhaneswar - Subudhi BB, Dash RN, Chattopadhyay S, Mamidi P, Maharana AK. Anti-CHIKV Ibuprofen conjugates

and method of preparation thereof. Application No-TEMP/E-1/37735/2020-KOL of 07.08.2020.

- ii. National Institute of Immunology (NII), New Delhi - Jairam Meena, Mamta Singh, Sudeepa Srichandan, Priyank Singhvi, Amulya K. Panda (2020). Improved immunogenicity of recombinant protein based SARS COV-2 candidate vaccine using PLA nanoparticles (Indian patent application 202011035557 filed on 18/08/20)
- iii. National Centre for Cell Sciences (NCCS), Pune - Title: "A novel chimeric protein kinase c as an immunomodulator" by Dr. Shailza; KOSEY, Dipali; MOL, Milsee; Application No: PCT/IN2019/050115 filed on 15.08.2020
- iv. Translational Health Science and Technology Institute (THSTI), Faridabad- Two patents have been filed –
 - a. Indian Provisional Patent Application No.: 202011030085 entitled "Silver Nano-Based Aqueous Sanitizer Against Pathogens" filed jointly with CSIR-CSMCRI.
 - b. Indian Provisional Patent Application No.: 202011034641 entitled "Novel Dna Aptamers Against Nucleocapsid Protein Of Sars-Cov- 2 And Uses Thereof" filed on 12th August 2020.

E. Technology(Developed/Transferred/Commercialized):

- i. National Institute of Animal Biotechnology (NIAB) has transferred a technology to Biogenex Pvt Ltd for developing biosensor based kit for detecting SARS-CoV2.
- ii. Regional Centre for Biotechnology (RCB) - BBB incubatee Company Organic 121 Scientific Pvt. Ltd. has commercialized a product "COVIDCOAT"- an Ultra long lasting self-disinfecting antimicrobial surface coating.

F. In total, 16 MoU/MoA and 2 MTA (Material Transfer Agreement) was signed by the institutions.

G. In total, the number of publications appeared was 55. The meetings/Seminars/Lectures organized was 45. There is one award granted.

H. Under the SAHAJ initiative – the infrastructure used by 10823 users and the revenue generated, including the CoVID-19 users is Rs.21.07Lakh through services provided.

III. PUBLIC SECTOR UNDERTAKINGS (PSUS)

A. Biotechnology Industry Research Assistance Council (BIRAC), New Delhi

i. Covid related activities:

- a. **Products developed:** Four products - point of care diagnostic Kit for Scheduling Equines from Fatal Zoonotic Disease-Glanders and Equines Infectious Anemia; Z- box for reducing the spread of infection in Healthcare Environments; a digital device for the early detection of dyslexia in Hindi speaking children; a high specificity and sensitivity antibody detection test for a lateral flow platform for COVID-19 detection have been developed.

- b. BIRAC supported 05 Startups namely Predible Health Pvt. Ltd., Perwinkle Tech. Ltd., Adiuro Pvt. Ltd., Ubicare Health Pvt. Ltd., Janitri Innovations participated in Latitude59 event on 27-28th Aug in Tallins, Estonia through Make in India Facilitation Cell for international showcasing & ecosystem.
- c. Out of the 18 proposals presented to 144th Technical Expert Committee, 3 proposals under BIPP, 6 proposals under SBIRI have been recommended for APEX consideration.
- d. A new thematic review on "Agriculture and Plant Sciences including Veterinary Sciences and Aquaculture" was held during 145th TEC meeting on 26th-27th August 2020.

ii. Webinars organized -

- c. BIRAC along with Indian STEP & Business Incubator Association (ISBA) organized a webinar on "Opportunities for Biotech Startups, Entrepreneurs, and Incubators" in association with JSS Academy of Technical Education (JSSATE)-Science & Technology Entrepreneurs Park, Noida on 10th Aug 2020.
- d. BIRAC conducted a special webinar on "Understanding the National Biodiversity Act" on 25th August, 2020.

B. Bharat Immunologicals & Biologicals Corporation Ltd. (BIBCOL): BIBCOL produced 16.492 million doses of Bovine Oral Polio Vaccine (bOPV), 230 Liters of Sanitizer and supplied 14.696 million doses of bOPV, 395 liters of Sanitizer and 7231 Zinc tablets.

C. Indian Vaccine Corporation Ltd. (IVCOL): Nil